KONICA MINOLTA

SERVICE MANUAL

FK-502/Network Fax

2006.08
KONICA MINOLTA BUSINESS TECHNOLOGIES, INC. Ver. 3.0

SAFETY AND IMPORTANT WARNING ITEMS

Read carefully the Safety and Important Warning Items described below to understand them before doing service work.

IMPORTANT NOTICE

Because of possible hazards to an inexperienced person servicing this product as well as the risk of damage to the product, Konica Minolta Business Technologies, INC. (hereafter called the KMBT) strongly recommends that all servicing be performed only by KMBT-trained service technicians.

Changes may have been made to this product to improve its performance after this Service Manual was printed. Accordingly, KMBT does not warrant, either explicitly or implicitly, that the information contained in this Service Manual is complete and accurate.

The user of this Service Manual must assume all risks of personal injury and/or damage to the product while servicing the product for which this Service Manual is intended.

Therefore, this Service Manual must be carefully read before doing service work both in the course of technical training and even after that, for performing maintenance and control of the product properly.

Keep this Service Manual also for future service.

DESCRIPTION ITEMS FOR DANGER, WARNING AND CAUTION

In this Service Manual, each of three expressions "⚠DANGER", "⚠WARNING", and "⚠CAUTION" is defined as follows together with a symbol mark to be used in a limited meaning.

When servicing the product, the relevant works (disassembling, reassembling, adjustment, repair, maintenance, etc.) need to be conducted with utmost care.

⚠DANGER: **Action having a high possibility of suffering death or serious injury**

⚠WARNING: **Action having a possibility of suffering death or serious injury**

⚠CAUTION: **Action having a possibility of suffering a slight wound, medium trouble and property damage**

Symbols used for safety and important warning items are defined as follows:

△ :Precaution when using the copier.

⃠ :Prohibition when using the copier.

● :Direction when using the copier.

SAFETY WARNINGS

1. MODIFICATIONS NOT AUTHORIZED BY KONICA MINOLTA BUSINESS TECHNOLOGIES, INC.

Konica Minolta brand products are renowned for their high reliability. This reliability is achieved through high-quality design and a solid service network.

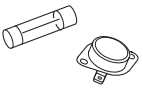
Product design is a highly complicated and delicate process where numerous mechanical, physical, and electrical aspects have to be taken into consideration, with the aim of arriving at proper tolerances and safety factors. For this reason, unauthorized modifications involve a high risk of degradation in performance and safety. Such modifications are therefore strictly prohibited. the points listed below are not exhaustive, but they illustrate the reasoning behind this policy.

Prohibited Actions

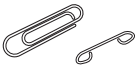
⚠ DANGER

- Using any cables or power cord not specified by KMBT.

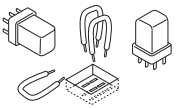
- Using any fuse or thermostat not specified by KMBT. Safety will not be assured, leading to a risk of fire and injury.



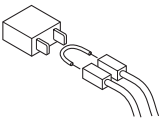
- Disabling fuse functions or bridging fuse terminals with wire, metal clips, solder or similar object.



- Disabling relay functions (such as wedging paper between relay contacts)

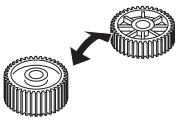


- Disabling safety functions (interlocks, safety circuits, etc.) Safety will not be assured, leading to a risk of fire and injury.



- Making any modification to the product unless instructed by KMBT

- Using parts not specified by KMBT



2. POWER PLUG SELECTION

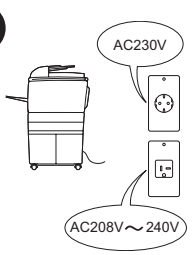
In some countries or areas, the power plug provided with the product may not fit wall outlet used in the area. In that case, it is obligation of customer engineer (hereafter called the CE) to attach appropriate power plug or power cord set in order to connect the product to the supply.

Power Cord Set or Power Plug

⚠ WARNING

- Use power supply cord set which meets the following criteria:
  - provided with a plug having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - provided with three-conductor cable having enough current capacity, and
  - the cord set meets regulatory requirements for the area.

  Use of inadequate cord set leads to fire or electric shock.



- Attach power plug which meets the following criteria:
  - having configuration intended for the connection to wall outlet appropriate for the product's rated voltage and current, and
  - the plug has pin/terminal(s) for grounding, and
  - meets regulatory requirements for the area.

  Use of inadequate cord set leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.

- Conductors in the power cable must be connected to terminals of the plug according to the following order:
  - Black or Brown: L (line)
  - White or Light Blue: N (neutral)
  - Green/Yellow: PE (earth)

  Wrong connection may cancel safeguards within the product, and results in fire or electric shock.

3. CHECKPOINTS WHEN PERFORMING ON-SITE SERVICE

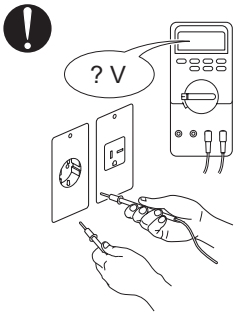
Konica Minolta brand products are extensively tested before shipping, to ensure that all applicable safety standards are met, in order to protect the customer and CE from the risk of injury. However, in daily use, any electrical equipment may be subject to parts wear and eventual failure. In order to maintain safety and reliability, the CE must perform regular safety checks.

1. Power Supply

Connection to Power Supply

⚠ WARNING

- Check that mains voltage is as specified.
  Connection to wrong voltage supply may result in fire or electric shock.

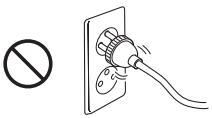


- Connect power plug directly into wall outlet having same configuration as the plug.
  Use of an adapter leads to the product connecting to inadequate power supply (voltage, current capacity, grounding), and may result in fire or electric shock.
  If proper wall outlet is not available, advice the customer to contact qualified electrician for the installation.

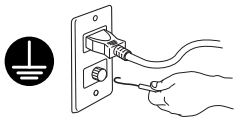
- Plug the power cord into the dedicated wall outlet with a capacity greater than the maximum power consumption.
  If excessive current flows in the wall outlet, fire may result.

- If two or more power cords can be plugged into the wall outlet, the total load must not exceed the rating of the wall outlet.
  If excessive current flows in the wall outlet, fire may result.

- Make sure the power cord is plugged in the wall outlet securely.
  Contact problems may lead to increased resistance, overheating, and the risk of fire.



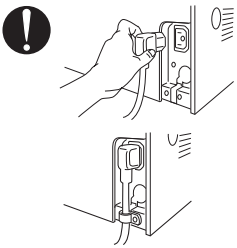
- Check whether the product is grounded properly.
  If current leakage occurs in an ungrounded product, you may suffer electric shock while operating the product.
  Connect power plug to grounded wall outlet.



Power Plug and Cord

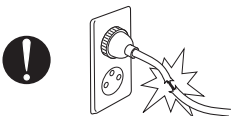
⚠ WARNING

- When using the power cord set (inlet type) that came with this product, make sure the connector is securely inserted in the inlet of the product.
  When securing measure is provided, secure the cord with the fixture properly.
  If the power cord (inlet type) is not connected to the product securely, a contact problem may lead to increased resistance, overheating, and risk of fire.

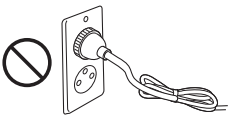


- Check whether the power cord is not stepped on or pinched by a table and so on.
  Overheating may occur there, leading to a risk of fire.

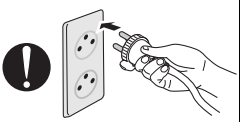
- Check whether the power cord is damaged. Check whether the sheath is damaged.
  If the power plug, cord, or sheath is damaged, replace with a new power cord or cord set (with plug and connector on each end) specified by KMBT.
  Using the damaged power cord may result in fire or electric shock.



- Do not bundle or tie the power cord.
  Overheating may occur there, leading to a risk of fire.

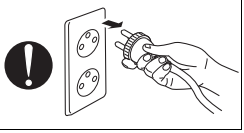


- Check whether dust is collected around the power plug and wall outlet.
  Using the power plug and wall outlet without removing dust may result in fire.



- Do not insert the power plug into the wall outlet with a wet hand.
  The risk of electric shock exists.

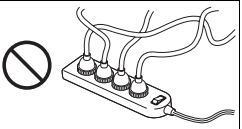
- When unplugging the power cord, grasp the plug, not the cable.
  The cable may be broken, leading to a risk of fire and electric shock.



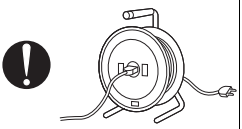
Wiring

⚠ WARNING

- Never use multi-plug adapters to plug multiple power cords in the same outlet.
  If used, the risk of fire exists.



- When an extension cord is required, use a specified one. Current that can flow in the extension cord is limited, so using a too long extension cord may result in fire.
  Do not use an extension cable reel with the cable taken up. Fire may result.



2. Installation Requirements

Prohibited Installation Place

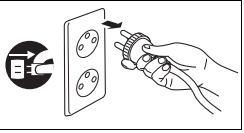
⚠ WARNING

- Do not place the product near flammable materials or volatile materials that may catch fire.
  A risk of fire exists.
- Do not place the product in a place exposed to water such as rain.
  A risk of fire and electric shock exists.

When not using product for a long time

⚠ WARNING

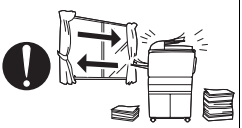
- When the product is not used over an extended period of time (holidays, dust collected around the power plug and outlet may cause fire.



Ventilation

⚠ CAUTION

- The product generates ozone gas during operation, but it will not be harmful to the human body.
  If a bad smell of ozone is present in the following cases, ventilate the room.
  a. When the product is used in a poorly ventilated room
  b. When taking a lot of copies
  c. When using multiple products at the same time



Fixing

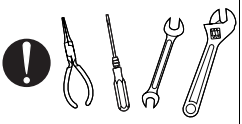
⚠ CAUTION

- Be sure to lock the caster stoppers.
  In the case of an earthquake and so on, the product may slide, leading to a injury.

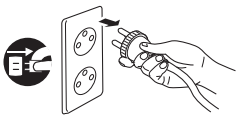
Inspection before Servicing

⚠ CAUTION

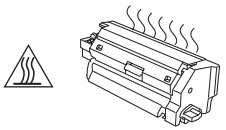
- Before conducting an inspection, read all relevant documentation (service manual, technical notices, etc.) and proceed with the inspection following the prescribed procedure in safety clothes, using only the prescribed tools. Do not make any adjustment not described in the documentation.
  If the prescribed procedure or tool is not used, the product may break and a risk of injury or fire exists.



- Before conducting an inspection, be sure to disconnect the power plugs from the product and options.
  When the power plug is inserted in the wall outlet, some units are still powered even if the POWER switch is turned OFF. A risk of electric shock exists.



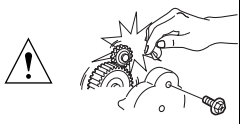
- The area around the fixing unit is hot.
  You may get burnt.



Work Performed with the product Powered

⚠ WARNING

- Take every care when making adjustments or performing an operation check with the product powered.
  If you make adjustments or perform an operation check with the external cover detached, you may touch live or high-voltage parts or you may be caught in moving gears or the timing belt, leading to a risk of injury.



- Take every care when servicing with the external cover detached.
  High-voltage exists around the drum unit. A risk of electric shock exists.

Safety Checkpoints

⚠ WARNING

- Check the exterior and frame for edges, burrs, and other damages.
  The user or CE may be injured.

- Do not allow any metal parts such as clips, staples, and screws to fall into the product.
  They can short internal circuits and cause electric shock or fire.

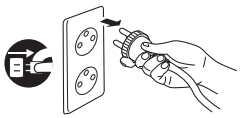
- Check wiring for squeezing and any other damage.
  Current can leak, leading to a risk of electric shock or fire.

- Carefully remove all toner remnants and dust from electrical parts and electrode units such as a charging corona unit.
  Current can leak, leading to a risk of product trouble or fire.

- Check high-voltage cables and sheaths for any damage.
  Current can leak, leading to a risk of electric shock or fire.

- Check electrode units such as a charging corona unit for deterioration and sign of leakage.
  Current can leak, leading to a risk of trouble or fire.

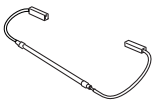
- Before disassembling or adjusting the write unit (P/H unit) incorporating a laser, make sure that the power cord has been disconnected.
  The laser light can enter your eye, leading to a risk of loss of eyesight.



- Do not remove the cover of the write unit. Do not supply power with the write unit shifted from the specified mounting position.
  The laser light can enter your eye, leading to a risk of loss of eyesight.

- When replacing a lithium battery, replace it with a new lithium battery specified in the Parts Guide Manual. Dispose of the used lithium battery using the method specified by local authority.
  Improper replacement can cause explosion.

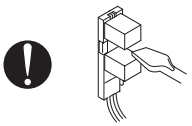
- After replacing a part to which AC voltage is applied (e.g., optical lamp and fixing lamp), be sure to check the installation state.
  A risk of fire exists.



Safety Checkpoints

⚠ WARNING

- Check the interlock switch and actuator for loosening and check whether the interlock functions properly.
  If the interlock does not function, you may receive an electric shock or be injured when you insert your hand in the product (e.g., for clearing paper jam).



- Make sure the wiring cannot come into contact with sharp edges, burrs, or other pointed parts.
  Current can leak, leading to a risk of electric shock or fire.

- Make sure that all screws, components, wiring, connectors, etc. that were removed for safety check and maintenance have been reinstalled in the original location. (Pay special attention to forgotten connectors, pinched cables, forgotten screws, etc.)
  A risk of product trouble, electric shock, and fire exists.

Handling of Consumable

⚠ WARNING

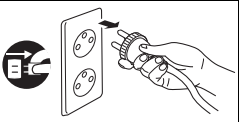
- Toner and developer are not harmful substances, but care must be taken not to breathe excessive amounts or let the substances come into contact with eyes, etc. It may be stimulative.
  If the substances get in the eye, rinse with plenty of water immediately. When symptoms are noticeable, consult a physician.

- Never throw the used cartridge and toner into fire.
  You may be burned due to dust explosion.

Handling of Service Materials

⚠ CAUTION

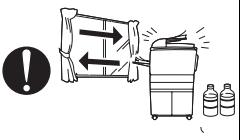
- Unplug the power cord from the wall outlet.
  Drum cleaner (isopropyl alcohol) and roller cleaner (acetone-based) are highly flammable and must be handled with care. A risk of fire exists.



- Do not replace the cover or turn the product ON before any solvent remnants on the cleaned parts have fully evaporated.
  A risk of fire exists.

- Use only a small amount of cleaner at a time and take care not to spill any liquid. If this happens, immediately wipe it off.
  A risk of fire exists.

- When using any solvent, ventilate the room well.
  Breathing large quantities of organic solvents can lead to discomfort.



SAFETY INFORMATION

IMPORTANT NOTICE

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products manufactured since August 1, 1976. Compliance is mandatory for products marketed in the United States.

This copier is certified as a “Class 1" laser product under the U.S.
Department of Health and Human Services (DHHS) Radiation Performance Standard according to the Radiation Control for Health and Safety Act of 1968. Since radiation emitted inside this copier is completely confined within protective housings and external covers, the laser beam cannot escape during any phase of normal user operation.

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1 OUTLINE OF THE DEVICE

1.1.BASIC SPECIFICATIONS

1.1.1 General Specifications

(1) Applicable lines ..... PSTN

(2) Protocol ..... Group 3 (compliant to ITU-T T.30)

- ECM
- F-code communication
- Konica Minolta non-standard protocol : No
- Group 4 : No

(3) Maximum data rate 33,600bps

(4) Coding method ..... MH, MR and MMR, JBIG

(5) Modulation method ..... V27ter, V29, (V.33), V17, V8 and V34

- V.33 is for reception only.

(6) Communication resolution ..... Normal 8 x 3.85 lines / mm

Fine 8 x 7.7 lines / mm

200 x 200 pixels / inch

Super fine 8 x 15.4 lines / mm

16 x 15.4 lines / mm

400 x 400 pixels / inch

Ultra Super fine600 x 600 pixels / inch
(Transmission only)

- Fixed to mm at transmission (except 600 dpi)
- mm and inch are available at reception.
- Selection by using the [Resolution] key.
- You can not change settings on every page.

(7) Fax memory size ..... With HDD installed: 27 Gbytes (27GB in the main body HDD 40GB is used as a memory.)

- 9000 pages can be stored including all Scan/Box/ Printer/Fax documents.
- With no HDD installed: Approx. 2000 pages can be saved at 32MB of image memory capacity.
  *HDD is provided as a standard supply or optionally depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".

(8) FAX memory backup ..... With HDD installed: Image data is saved in HDD.

With no HDD installed:

- With bizhub 500/420, the image data is saved on the RAM disk which is backed up with the battery on the copier side. Back-up time is less than 60 minutes (at full-charge).
- With bizhub 750/600, the image data is saved in the compact flash

(9) Multiple line connection ..... Two lines can be connected by installing the Line Extension kit.

(10) Communication time ..... Level of 2 seconds (Konica Minolta standard A4 chart, 28,800bps)

(11) Resolution conversion

At Sending	Scanner	Density Conversion	Communication
	inch	inch → mm	mm / inch (600 dpi only)
At Receiving	Communication	Density Conversion	Print
	mm	mm → inch	inch
	inch	inch → inch	inch

1.1.2 Scanning Section

(1) Scanning method ..... Platen documents

- Impossible to scan book documents (book mode)

ADF book documents

- Scanning mode: Single sided, Double sided and Cover + 2 sided (varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".)
- Possible to scan the ADF mixed size documents.

(2) Scanning resolution ..... Normal 8 x 3.85 lines/mm

Fine 8 x 7.7 lines/mm

Super fine 16 x 15.4 lines /mm

Ultra Super fine600 x 600 dpi

- Selection by using the [Resolution] key.
- You can not change settings on each page.

(3) Mixed original ..... Possible to mix documents of different sizes.

- After rotation of images, sizes are changed by EOM every time the length of the scan line is changed at sending.

- Possible to mix sizes (A and B).

(4) Density selection ..... Selection by using the [Density] key. [Lighter] / [Darker] / [Std.]

- You can not change settings on each page.

(5) Maximum scanning document width ..... 297 mm (A3 width) both for ADF and Platen

(6) Maximum scanning document length ..... 432mm (A3 length) / 17 inches (double letter) in the regular mode

- Long original mode (varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".)

(7) Effective scanning range ..... Compliant to the copier standard

When a document is smaller than the effective scanning area, the area outside the document is erased.

- ADF scanning: left, right, head and bottom Mask of 3mm each (0 to 5mm)
- Platen scanning: left, right and head Mask of 2mm each (fixed)

(8) Automatic reduction at sending ..... A3 >> B4, A3 >> A4 and B4 >> A4

- Automatically reduced and sent in accordance with the recording paper size of remote station.

(9) Rotation transmission ..... A4 / Letter size only. LEF documents are rotated by 90 degrees at sending to send it in SEF direction.

(10) Page division at sending ..... No

(11) Halftone ..... 256 level error diffusion

- Users can change settings by using the [Photo], [Text], [Text/Photo] or [Dot. Matrix] key.

(12) Automatic Background Control (ABC) ..... Yes

(13) Finished stamp ..... Varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".

(14) Scanning time ..... Compliant to the copier standards

(15) Automatic feeder capacity ..... Compliant to the copier standards

1.1.3 Recording Section

(1) Recording ..... Compliant to the copier standards

(2) Recording paper size ..... All sizes except for B6 and Postcard (See the copier basic specifications.) Auto recording paper selection

Note: A5 and B5 paper is used only for A5 and B5 reception respectively

(3) Recording paper cassette ..... Tray 1 to Tray 4, bypass Tray

(4) Staple ..... No

(5) Recording speed ..... Compliant to the copier standards

(6) Recording size ..... A3 size maximum

- A3 fix as reception record ability declaration in protocol.

(7) Maximum reception length..... Varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".

- In case of being larger than the maximum reception length, a communication error occurs.
- When the memory over occurs during reception, the received data is printed.

(8) Reduction record ..... When the received image information is larger than the recording paper, it is automatically reduced to the recording paper size and recorded.

(9) Page separation record ..... Yes

(10) Offset output at each communication ..... Yes (Job unit reception only)

(11) Rotation reception ..... Yes

- Images are rotated by 90 degrees and recorded on the recording paper in LEF direction.

(12) Two-sided reception ..... Yes (Utility Mode)

(13) 2-in-1 reception ..... No

(14) Smoothing..... Yes
(at converting the resolution)

(15) Print/Fax Output Settings ..... Yes (Varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".)

(16) Bypass print ..... Possible to use as an active tray in auto selection mode.

(17) Total page counter..... Compliant to the copier standards

(18) Monitor print..... No
(copy at sending)

1.1.4 Line Connecting Section

(1) NCU type ..... A-A~ and built-in NCU

(2) Connecting terminal RJ11

(3) Modem ..... Matsushita MMD-H5005

(4) Modem sending level ..... -10~-15 dBm (Country spec)

(5) DTMF sending level ..... -10~-15 dBm (Country spec)

(6) Receiving sensitivity ..... G3 reception: up to -48dB
Tone reception: up to -52dB

(7) Dialing signal ..... DP (10pps) and DTMF

1.1.5 Operation Panel

(1) FAX / Copy / Scan / Box
Mode switching ..... by panel key selection

- Possible to change modes during an operation of each mode.

- No mode return by the auto reset.

Initial Screen after power-on ..... Screen at power off or facsimile screen.
(depending on parameter setting)

(2) Interruption during scanning ..... When pressing the interrupt button while scanning documents to be transmitted, INTERRUPT LED blinks. Copy screen appears after scanning is completed.

(3) Interruption during recording in the FAX mode screen ..... Operations by using the interrupt button are invalid.

(4) FAX start ..... by using the start button.

(5) Stop ..... by using the stop button.

- Possible to appoint to stop from the job list so as to stop during operations of the multi jobs.

(6) FAX free memory display ..... RDH Memory

- % indication on LCD during scanning, recording and stand-by.

File Memory (RAM disk/HDD)

- Display in the JOB LIST screen

(7) File existence indication ..... In the following cases, the Data Indicator (LED) on the control panel lights up.

- Upon reception of FAX
- When a document is saved in the Bulletin Board Box, Polling TX Box, and Memory RX User Box.

(8) Display during the FAX communications ..... Icons are not displayed on the FAX waiting screen and the FAX operation screen.

(9) Error display ..... Displayed by LCD panel

(10) Time display ..... Date and time displayed.

- Present time is displayed on the sub-area.

(11) Remote station ID display ..... Yes

- The TSI/CSI display during communications

(12) Other operation buttons ..... [Scan Setting], [Comm. Setting] key: Moves to the FAX application function setting screen.

Mode Check button:Valid

*/# button: Yes

Help button: Yes

1.2.FUNCTIONAL SPECIFICATIONS

1.2.1 Dial functions

(1) Abbreviated dial ..... Yes

- Possible to register 2000 stations. (1000 with no optional HDD installed)
- Possible to appoint extension / external types.
- 38 digits maximum
- Possible to search the remote station list in the order of abbreviation numbers and names.
- The registration names must be 24 digits or less.
- Registration name auto registration function: No
- Second FAX No. registration function: No
- Impossible to register the communication mode.
- Possible to register Line Setting (Overseas TX, ECM Off, V.34 OFF, Check Destination, Line Selection (Only with the Line Extension kit installed)).
- There is no registration function provided of [Scan Setting], [Comm. Setting] except the Line Setting.

(2) Program dial ..... 400 dials (200 with no optional HDD installed)

(3) Key pad dial ..... 38 digits maximum

(4) Group dial ..... Up to 100 groups. Possible to register group names. up to 500 remote stations per each group by abbreviated numbers only.

(5) Dialing of multiple remote stations ..... 605 remote stations maximum (abbreviated 500 + key pad 100 + manual input E-Mail destination 5)

(6) Manual redial ..... Yes

- Possible to select from five latest histories.

(7) Automatic redial ..... Yes

- Automatically redial when remote stations are busy or return no responses or transmission errors occur at the memory transmission
- Possible to receive during redial waiting.
- Another call is possible. (Not possible when there are two redial waiting jobs.)

(8) JOB LIST Redial ..... No

(9) Pulse/Tone switching ..... Possible to switch by using the [*] key on the [Key pad] or [Tone] key on the Direct Input screen.

(10) PBX mode setting ..... Yes

- Possible to turn On or Off the PBX connection and to register the external access code.

- There is the automatic removal function of external access code to registered abbreviated remote station No.. Nothing is automatic addition function.

(11) Pseudo off-hook .....Yes

- The manual start is possible by using the pseudo off-hook.
- [Off hook] button on LCD

(12) Call progress detection .....DC loop (Depends on country spec).

- Dial tone (Ditto)
- Busy tone (Ditto)
- Second dial tone (Ditto)

(13) Dial parameters .....Dialing signals DP (10pps) and DTMF (Depends on country spec)

- Pause between digits1 to 7 seconds (Users cannot set.)
- Pause between digits3 seconds (fixed)

(14) Phone book dial .....Yes
(Abbr).....After appointing character to search, use up and down cursor keys.

(15) External phone connection jack .....Yes

- Depends on specifications of each country.

1.2.2 Transmission

(1) Timer transmission .....24-hour (max.) timer setting is possible. (one station, sequential multi-stations transmission)

(2) batch transmission (Timer batch) .....No

(3) Timer polling .....24-hour (max.) timer setting is possible. (one remote station polling and sequential polling reception)

(4) No. of timers .....21 transmissions and pollings in total
The number of sequential pollings is one.

(5) Reservation report .....The reservation report output is possible at the timer reservation.

(6) Memory transmission reservation .....The memory transmission reservation is possible during communications. (memory registration of the ADF memory transmission and platen memory transmission documents)

(7) ADF transmission reservation .....No

(8) Fold erase transmission .....No

(9) Frame erase transmission .....Yes

- Platen documents and book documents
- ADF documents are possible as well.
- The regular mode only

(10) Automatic layout transmission
(Outside documents are erased.) ..... No

(11) reverse-image transmission ..... No

(12) 2-in-1 transmission ..... No

(13) Book transmission ..... No

(14) Scanning size appointment ..... Yes

- Scans documents in the appointed size irrelevant to document sizes and sends them. Transmits documents in the appointed scanning width and length at the platen transmission and the ADF transmission.
- The effective image area is based on the center in the ADF transmission. (Corner-base scanning in mixed-size document mode.)

(15) Document image quality appointment ..... Yes

- Selected from Text, Text/Photo, Photo or Dot. Matrix.

(16) Multi-stations ..... 605 stations maximum (Abbr dial x 500 stations, key-pad dial x 100 stations and E-Mail x 5)

The timer appointment is possible.

(17) Memory transmission ..... The memory transmission is default.

	ADF Transmission	Platen Transmission	Mixture of ADF/Platen Documents	Advanced Communica–tion Function	Manual Transmission	Transmission When the Printer is Active
Quick Memory Transmis–sion	Varies depend-ing on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".	One page only	X	▲ (Only the communication mode is possible)	O	X
Memory Transmission	O	O After the Separate Scan setting, the setting is read with the [Start] key and the communication is started up with the [Fin–ish] key.	O After the Separate Scan setting, the setting is read with the [Start] key and the communication is started up with the [Fin–ish] key.	O	X	O

O Yes
X No
▲ Partly Yes

(18) Forwarding transmission ..... Yes

- Automatic forward: Automatic forward of received documents to remote stations registered in advance.
- Manual forward: No

(19) Interruption transmission..... Single station transmission reservation automatically interrupts between stations of multiple station communications.

(20) International communication ..... Yes

- When the remote station is V17, communications start at TCM 7,200bps. When the remote station is V34, they start at 28,800bps.

(21) V34-off transmission ..... Transmitted without V34 mode. The V34-off appointment can be registered in the abbreviated / program dials. This is used when the transmission error code related to V34 occurs frequently.

(22) Long original transmission ..... Varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".

(23) ADF irregular-size transmission ..... Possible to transmit irregular-size originals from ADF. The main scanning is the max. document width set on ADF, and the sub scanning depends on document length. The maximum is 432 mm/17 inches.

(24) Restored transmission ..... No

(25) Instant batch transmission (Bundled transmission) ..... No

(26) Confidential transmission ..... Transmission to the confidential BOX of a remote station by using the F code (SUB/SID). Appoints the confidential BOX No. by using SUB.

Set the communication password using SID as required.

(27) Relay request ..... The relay request by using the F-code (SUB/SID). Appoints the relay BOX No. by using SUB.

(28) Relay transmission ..... No

(29) Transmission error prevention ..... Varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".

Check Destination: When transmitting, compares the FAX No. specified with the FAX No. information (CSI) of the remote station and transmits only when both numbers are the same.

Destination Check Display Function: When transmitting, displays the list of addresses to allow to check the address again and then transmit.

Restrict FAX Broadcasting: Prohibits to specify multiple addresses for FAX transmission.

1.2.3 Polling

(1) Polled transmission ..... There is one documents which allows the transmission setting.
- Documents are deleted after transmission.
- No additional scanning of documents
- No ADF polled transmission reservation

(2) Polling reception ..... The sequential polling is possible.
600 stations maximum (abbreviated dial x 500 stations and key pad dialing x 100 stations)

(3) Call turnaround polling ..... No

(4) Called turnaround polling ..... Yes

(5) Closed polling transmission ..... No

(6) Selective polling ..... Transmission and reception.
The selective polling by using the F-code (SEP). There is a bulletin board BOX polling reception. No confidential BOX polling transmission

1.2.4 Line Seizure Mode and Telephone Function

(1) Line seizure mode switching..... Possible to set the automatic reception and the manual reception.
- When the memory is full and there are no polling transmission reservations, the automatic reception mode is cancelled.
- No switching of the auto / manual mode by appointing data and time

(2) Ans. Machine mode..... Yes
- At the time of the CNG detection with the external phone off hook, a line is caught to start reception.

(3) Automatic reception mode ..... Time and the number of rings.
- No. of rings: 0 to 15 times (country spec)
- Time: 0 to 15 secs (country spec)

(4) Hold ..... No

(5) Handset..... No

(6) One-piece phone ..... Country spec

(7) Call to external telephone ..... No

(8) Conversation reservation ..... No

1.2.5 Message Reception and Record

(1) Confidential reception.....Reception at the confidential BOX appointed at the F-code (SUB). When a transmission password (SID) has been set for the confidential box, the SID should be specified as the communication password. At the time of printing documents received at the confidential BOX, a password to access to the confidential BOX is required.

(2) Closed reception.....Closed reception by using the SID (PWD) (Junk FAX)

(3) Adaptive (automatic) reduction .....87 to 96% in steps of 1%

Becomes the adaptive reduction when “Print Separate Fax Pages = OFF” is selected. In case of the adaptive reduction, if the reception image size is a little bigger than recording paper, the size is automatically reduced so that it becomes within the recording paper size and is recorded.

(4) Fixed reduction .....No

(5) Page separation record.....Does not overlap at the division.

(6) Equal size recording .....Records the received image at an equimultiple size. (Varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".)

When the reception size is larger than A3 form, excessive image is destructed.

(7) Cassette selection.....Appropriate paper size auto selection

- When paper is running out, paper is provided from another cassette with the same size of paper.
- Tray-fix mode available

(8) 2-in-1 reception.....No

1.2.6 Memory Function

(1) Display of used memory space.....Yes (Fax screen: RDH Memory)

(2) Memory RX.....A password is required for printing received files. The password (up to 8 digits) is set when the Memory RX mode is set in the Utility Mode.

First page can be printed.

(3) Memory substitute reception .....Yes (when there is no paper / no toner)

1.2.7 Various Communication Function

(1) Short protocol ..... No

(2) ECM ..... Yes

- Frame size: 64 byte / 256 byte

(3) Communication timer ..... Yes

- 24 hours maximum. 21 including one for sequential polling timer.

(4) Redial waiting ..... Five redial timers maximum

(5) Error page resending ..... No (becomes the error page redial.)

(6) Error page redial ..... Effective to both quick memory transmission and memory transmission. Redial and retransmission in case of RTN or comm error.

- Redial interval: follows the busy redial interval.
- Num. of redials: 0 to 7 times (different counter from the busy redial)

(7) Total page number print ..... Yes

- Automatic print to the TTI in memory transmission.
- Added when the number of document pages is appointed for quick memory transmission.

(8) Header memo ..... No

(9) TTI (Transmitting Terminal ID) ..... Yes

- 30 characters maximum
- Added not to the original read image, but to the top of the transmission image while in the image rotation being specified.
- The registration of up to 20 Sender Names is available.
- It is possible to make a selection to decide whether or not the address is printed at the Header Position.

(10) RTI (Receiving Terminal ID)..... Yes

- After processing the enlargement and/or reduction operations, a record is made at the bottom position specified before conducting an image rotation.
- Date, time and page no. are recorded.

(11) Fax Remote diagnosis ..... No

(12) MH fix ..... Yes. Setting can be made from the Service Mode.

(13) Document insertion after dialing..... Yes

Document insertion is possible after dialing.

Starts calling by using the [Start] button.

(14) Communication history..... Yes

The last 100 communication histories are recorded in the communication journal.

(15) Electronic key counter .....Yes

- The number of transmitted pages to each user. Limit control is not done.

(16) Key counter .....Yes

(17) Coin vender.....Yes. (Support timing varies depending on models.)

- It is possible to use with FAX.

1.2.8 User Lists / Reports

(1) Activity Report.....The total of 100 communications (sending and reception) can be recorded.

Automatic output ..... Daily / Every 100 Comm. / 100/ Daily

Manual output..... Yes

(2) Timer Reservation Report .....Automatic output Users can turn ON / OFF.

(3) TX report .....Automatic output (ON / If TX Fails / OFF)

Possible to output with images

(4) Sync transmit reservation report.....Automatic output Users can turn ON / OFF.

(5) Broadcast Result Report.....Automatic outputUsers can select All Destination, 1 Destination at a time.

(6) Polled Tx reserve report .....Automatic output Users can turn ON / OFF.

(7) Polled Tx result report .....Automatic output Users can turn ON / OFF.

(8) Polled Rx result report.....Automatic output Users can turn ON / OFF.

(9) Sequential poll, Rx reservation report .....Automatic output Users can turn ON / OFF.

(10) Sequential poll, Rx result report .....Automatic output Users can turn ON / OFF.

(11) An address Polling Rx Reserved Report .....Automatic output Users can turn ON / OFF.

(12) Address Book List.....Manual output (numeric order or alphabetic order)

(13) Program List .....Manual output

(14) Group Address List .....Manual output

(15) Fax Setting List .....Manual output

(16) Bulletin TX Report .....Automatic outputUsers can turn ON / OFF.

(17) Confidential RX Report .....Auto output at the F code confidential reception.

(18) Subject/Text List.....Manual output

1.2.9 Other User Functions

(1) Fax ID..... Number ID: 20 digits (max.)

(2) Header note ..... No

(3) Language selection..... Yes

1.2.10 Service Mode Function

(1) See the “2 OUTLINE OF OPERATIONS” for details

1.2.11 FAX Service Counter

- Counts for the communication system

See “3 SERVICE MODE” and “4 TEST MODE” for details.

1.3.NETWORK FAX SPECIFICATIONS

1.3.1 Internet Fax

Main product specifications relating to internet fax functions are indicated below.
Specifications are subject to change without notice.

Item		Specifications
Image memory capacity		27 GB* (27 GB of 40 GB of the hard disk is used as a memory.)
Max. no. of stored pages		Approx. 9000 pages* (numbers of pages in the case of storing standard A4-size pages containing approximately 700 characters at “fine” resolution)
Scanning line density		Ultra Fine: 600 dpi × 600 dpi Super Fine: 400 dpi × 400 dpi Fine: 200 dpi × 200 dpi Normal: 200 dpi × 100 dpi
Transmission mode (File Type)		monochrome (TIFF)
Transmission coding methods		TIFF-S (MH), TIFF-F (MR/MMR)
Max. scanning size		A3 (420 mm × 297 mm) Width: 297 mm Length: MAX. 432 mm
Max. recording size		A3 (420 mm × 297 mm) Originals in excess of 1000 mm cannot be received. When receiving originals longer than the paper size in the paper trays, printing is made according to the setting of [Print Separate Fax Pages].
Treatment of transmission error	Mail transmitted again.	None
	Internet FAX Rx Error Report	When documents cannot be sent to the SMTP server, transmission error report to be printed/not printed can be set.
		When MDN/DSN response is received, to be printed/not to be printed can be set.
		When MDN/DSN response is received, transmission result is indicated on the transmission control report.
		MDN/DSN response monitoring time can be set in the range from 0 to 99 hours.
Mail reception	Mail acquisition interval	Can be set to 1 - 60 minutes.
	Manual POP reception	Possible
	Reception by specifying a box	Not Available (except Memory RX)
	Received document size	width: A4 / B4 / A3
	Reception coding system	TIFF-S (MH), TIFF-F (MR/MMR)
List/report	Print DSN Message	Possible
	Print MDN Message	Possible
	Print Receipt Mail Text	Possible
	Network FAX Activity Report	Shared with Fax Activity Report. Max. 100.
	Network Fax Rx Error Report	Possible

1.3.2 IP Address Fax

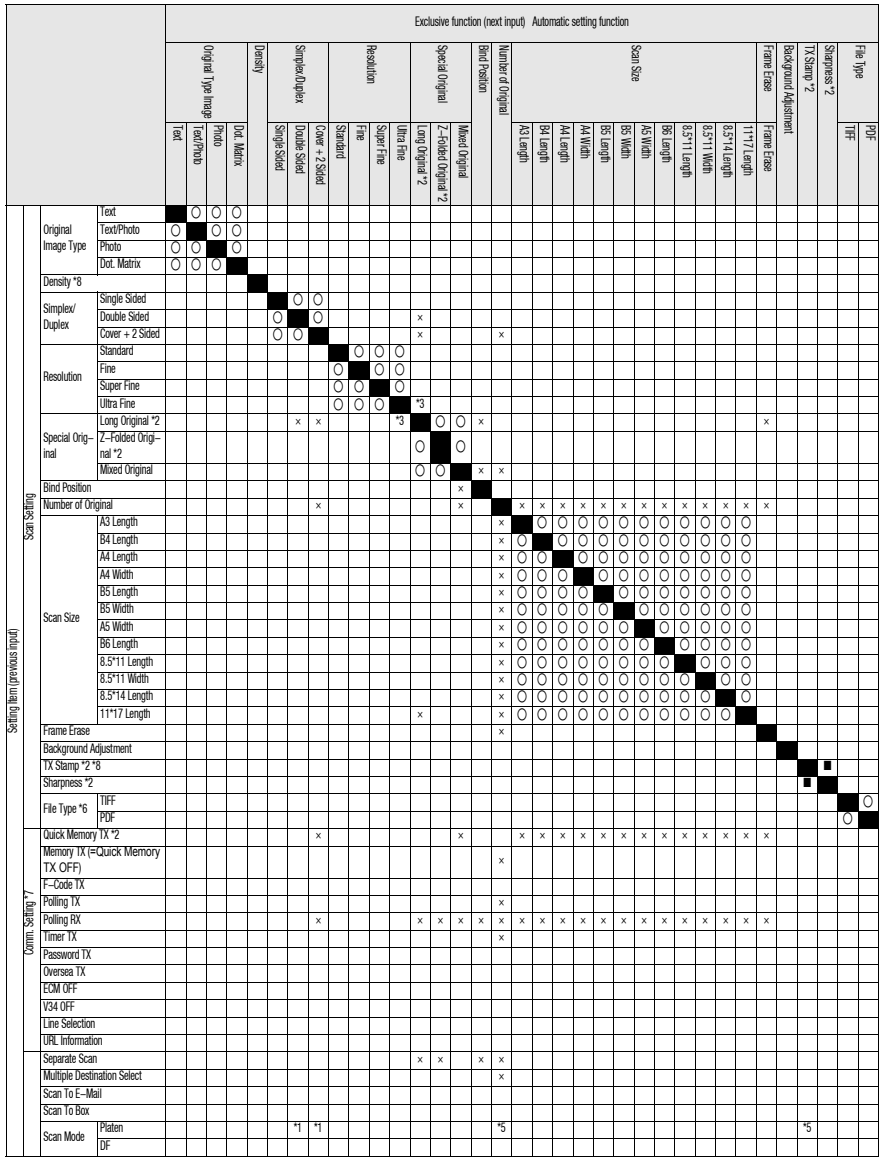
Main product specifications relating to IP Address Fax functions are indicated below.
Specifications are subject to change without notice.

Item	Specifications
Image memory capacity	27 GB* (27 GB of 40 GB of the hard disk is used as a memory.)
Max. no. of stored pages	Approx. 9000 pages* (numbers of pages in the case of storing standard A4-size pages containing approximately 700 characters at “fine” resolution)
Scanning line density	Ultra Fine: 600 dpi × 600 dpi Super Fine: 400 dpi × 400 dpi Fine: 200 dpi × 200 dpi Normal: 200 dpi × 100 dpi
Transmission mode (File Type)	Color (PDF) / Monochrome (TIFF)
Coding methods	MH/MR/MMR
Max. scanning size	A3 (420 mm × 297 mm) Width: 297 mm Length: MAX. 432 mm
Max. recording size	A3 (420 mm × 297 mm) Originals in excess of 1000 mm cannot be received. In the color mode, the reception of an original in excess of 432 mm in length is unavailable. When receiving originals longer than the paper size in the paper trays, printing is made according to the setting of [Print Separate Fax Pages].

* The Internal hard disk is common used of each function of the Copy, the Scan, the Print and the Box.

1.4.INHIBITED COMBINATIONS

The following show combinations of application functions.



Setting Item (previous input)				Exclusive function (next input) Automatic setting function																			
				Quick Memory TX *2	Memory TX (=Quick Memory TX OFF)	F-Code TX	Polling TX	Polling RX	Timer TX	Password TX	Oversea TX	ECM OFF	V34 OFF	Line Selection	URL Information	Separate Scan	Multiple Destination Select	Scan To E-Mail	Scan To Box	Scan Mode: Platen	Scan Mode: DF
Scan Setting	Original Image Type	Text																					
		Text/Photo																					
		Photo																					
		Dot. Matrix																					
	Density *8																						
	Simplex/ Duplex	Single Sided																					
		Double Sided																				*1	
		Cover + 2 Sided	×					×														*1	
	Resolution	Standard																					
		Fine																					
		Super Fine																					
		Ultra Fine																					
	Special Original	Long Original *2						×								×							
		Z-Folded Original *2						×								×							
		Mixed Original	×					×															
	Bind Position							×								×							
	Number of Original		×	○		×	×	×								×	○				○		
	Scan Size	A3 Length	×					×															
		B4 Length	×					×															
		A4 Length	×					×															
		A4 Width	×					×															
		B5 Length	×					×															
		B5 Width	×					×															
		A5 Width	×					×															
		B6 Length	×					×															
		8.5*11 Length	×					×															
		8.5*11 Width	×					×															
		8.5*14 Length	×					×															
		11*17 Length	×					×															
	Frame Erase		×					×															
	Background Adjustment																						
	TX Stamp *2 *8																						
	Sharpness *2																				○		
	File Type *6	TIFF																					
		PDF																					
Comm. Setting *7	Quick Memory TX *2		■	○		×	×	×								×	○	×	×				
	Memory TX (=Quick Memory TX OFF)		○	■																			
	F-Code TX				■	×	×		×										*4	*4				
	Polling TX		×		×	■	×	×	×	×	×	×	×				×	×	×				
	Polling RX		×		×	×	■		×	×	×	×				×		×	×				
	Timer TX		×			×	×	■											×	×			
	Password TX				×	×	×		■														
	Oversea TX					×	×			■													
	ECM OFF					×	×				■	×											
	V34 OFF					×	×				×	■											
	Line Selection					×							■										
	URL Information													■									
	Separate Scan		×				×								■								
	Multiple Destination Select		×			×										■							
	Scan To E-Mail		×		*4	×	×	×									■						
	Scan To Box		×		*4	×	×	×										■					
	Scan Mode	Platen																	■		○		
		DF																		■	○		

○: Exclusive (Ante-priority) 0: Post-priority (Ante-input items are released.) No entry: No restriction

(*1): When it is recognized that an original is being read by the platen to start a job while in the Double Sided or Cover + 2 Sided setting, this results in a setting in which the Double Sided or Cover + 2 Sided is released.

(*2): The Long Original, Z-Folded Original, TX Stamp, Sharpness and Quick Memory TX functions are available or not depending on models. Refer to “Differences of Functions by Model (as of Aug.11. 2006)” on page 9-35.

(*3): No combination is allowed for C352

(*4): An F code transmission is ignored when it is sent to any receiving ends other than FAX.

(*5): Automatically reset when the original is read with the platen glass.

(*6): The Internet Fax is TIFF fixed. The IP Address Fax is TIFF fixed in the monochromatic transmission mode and PDF fixed in the color transmission mode.

(*7): For the Network Fax (Internet Fax/IP Address Fax), the use of the Comm. Setting is unavailable.

(*8): In the color transmission mode of the IP Address Fax, it is not possible to specify Density and Sharpness.

1.5.Caution when using Prefix/Suffix Auto Setting (North American users only)

When turning ON the [Prefix/Suffix Auto Setting], following settings are required in the service mode.

- Select [System 2]-[Option Board Status] and set the Fax to [Unset].
- Select [System 1]-[Marketing Area] and set the [Marketing Area] and [Fax Target] to the place of installation of the unit.

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2 OUTLINE OF OPERATIONS

2.1.SERVICE OPERATION MODE

Service Mode	Machine					
	Firmware Version					
	Imaging Process Adjustment					
	CS Remote Care					
	System 1					
	System 2	Network Fax Settings				
	Counter	Counter of Each Mode (Mode)				
		Menu other than Counter of Each Mode (Mode) varies depending on models.				
	List Output	Machine Management List				
		Adjustments List				
		Parameter List				
		Service Parameter				
		Protocol Trace (Last/Error)				
		Fax Setting List				
		Fax Analysis List				
	State Confirmation					

Test Mode		Menu other than Fax Test varies depending on models.				
		Fax Test	Line 1	Signal Send Test	V34 Main CH	2400 - 33600 [bps]
					V34 Control CH	CTL CH/INFOc/ INFOa/ToneA/ToneB
					V8	CM/JM
					V17t	14400/12000/9600/ 7200 [bps]
					V29	9600/7200 [bps]
					V27ter	4800/2400 [bps]
					V21	-
					PB	0/1/2/3/4/5/6/7/8/9/*/#/ A/B/C/D
					DP	0/1/2/3/4/5/6/7/8/9
					Special Tone	1100/1300/1650/2100 [Hz]
					Optional Tone	200-4000 [Hz]
					PB Tone (High)	1209/1336/1477/1633 [Hz]
					PB Tone (Low)	697/770/852/941 [Hz]
					Pseudo Ring	-
				Signal Receive Test	V17	14400/12000/9600/ 7200 [bps]
					V29	9600/7200 [bps]
					V27ter	4800/2400 [bps]
					V21	-
					PB	0/1/2/3/4/5/6/7/8/9/*/#/ A/B/C/D
					Special Tone	1100/1300/2100
					Hi-Z Trans	-
				NCU Test	CML Relay	
					PULSE Relay	
					EARTH Relay	
					LOOP Relay	
					DC-LOOP Detect	
					Speaker	
					Outside Ring Send	
					Audio Response Send	
			Line 2	Same items as those of the Line 1 are displayed.		
ADF						
FAX	Line 1	Modem/NCU	V34:1/2	RX Max. Bit Speed	2400-33600 [bps]	
				TX Max Bit Speed	2400-33600 [bps]	
				Control CH Speed	1200, 2400 [bps]	
				Max. SYMB Speed	2400, 2800, 3000, 3200, 3429 [SYMB]	
			V34:2/2	SYMB Select Criterion (S/N)	-6 - +6 [dB]	
				Main CH Speed Selection Standard	-8 - +7 [dB]	
				SYMB Select Criterion (Distortion)	-6 - +6 [dB]	

				V17 Send Max Speed	TX Max. Speed	V17-14400 bps V17-12000 bps V17-9600 bps V17-7200 bps V29-9600 bps V29-7200 bps V27-4800 bps V27-2400 bps	
					RX Max. Speed	V17-14400 bps V29-9600 bps V27-4800 bps	
				TxATT	PIX TxATT	The setting value are different depending on the country.	
					TONE/Procedure Signal TxATT		
					CED/ANSam TxATT		
					DTMF TxATT		
				Level	CD/SED ON Level	-48 - -33 [dBm]	
					DTMF H-L Level Difference	1.0 - 4.0 [dB]	
				Cable EQL	TX	0 - 12 [dB]	
					RX	0 - 12 [dB]	
			System	Display Setting	Closed area Rx	ON/OFF	
					Compulsory Memory RX	ON/OFF	
				Scan Setting	Frame Erasure HP	5, 10, 15 [mm]	
					Original Reading Mode Default (bizhub 750/600, 500/420 only)	Custom Size/Normal	
				System Function	FAX Board Watchdog	ON/OFF	
					Fax Boot Rewrite on ISW	ON/OFF	
					Error Code Display Time	Hold/10-250 [sec]	
				Operation Setting	RX or Print Stop	Effective/Invalid	
					Report Auto Output Stop	Effective/Invalid	
				Communication Setting	Auto Rotation Send(LT)	ON/OFF	
					Auto Rotation Send(A4T)	ON/OFF	
					Error Page Resending	Error Page/All Page	
					Number of Redials	0-7	
			Communication	Protocol	V8/V34 Protocol	ON/OFF	
					V17 EP TONE	ON/OFF	
					V29 EP TONE	ON/OFF	
					V17 Selection Mode "-"	ON/OFF	
					ANSam Send Time	1.0-5.5 [sec]	

		Int'l Comm. Function	Foreign Communication Function	ON/OFF	
			No. of DIS Waiting Times at Foreign Communication	1, 2	
			V34 Speed	16800-33600 [bps]	
			V17 Speed	7200-14400 [bps]	
			V29 Speed	2400-9600 [bps]	
		TIMER1	T1	30-90 [ms]	
			DCS-TCF DELEY	50-150 [ms]	
			CED-DIS DELEY	50-150 [ms]	
			PIX-PMC DELEY	50-150 [ms]	
		TIMER2	EOL-EOL	4.0-25.5 [sec]	
			CFR-PIXWAIT	6.0-25.5 [sec]	
			EOM-PIXWAIT	5.5-25.5 [sec]	
			JM WAIT	6.0-25.5 [sec]	
		Others	EMC Function	ON/OFF	
			Frame Size at ECM TX	64,256	
			Coding Ability	MH MH/MR MH/MR/MMR MH/MR/MMR/JBIG	
	Function Parameter	Address/ Data			
	Network	Network Setting 1	Receive Signal Detection Mode	No. of Times/Time	
			Receive Signal Detection Time	0-15 [sec]	
			BUSY TONE Detection	ON/OFF	
			BUSY TONE Detection No. of Times	0-15	
		Network Setting 2	1300Hz Detection	ON/OFF	
			Dial Tone Detection	ON/OFF	
			DC-LOOP Check	ON/OFF	
			min. RING OFF Time	0-1000 [ms]	
			Response Waiting Time	35-115 [sec]	
			Pause Time	1-7 [sec]	
	Fax File Format				
	List Output Setting	Journal Diagnosis Code Addition	ON/OFF		
		TX Result Report	With Image/ Without Image		
		Protocol Trace Auto Output	Always/Error/ OFF		

			Initialization	Fax Function Parameter			
				Communication Journal Data			
		Line 2	When the Line 2 is specified, only the Modem/NCU, Communication, Network and Initialization items are displayed.				
	Finisher						
	Internet ISW (varies depending on models.)						

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3 SERVICE MODE

3.1.OUTLINE OF SERVICE MODE

3.1.1 Service Mode and Test Mode

The service mode is provided in this machine for the purpose of the following operations. And also, the Service Mode includes the Test mode as a menu.

- Initial settings at the time of installation and rewriting ROM.
- In order to deal with customers' claims after installation, setting status and operations of devices are checked and operational conditions are changed for analyzing troubles.

This manual provides “4 TEST MODE” to explain the test mode for your easy understanding.

3.1.2 Service Mode Menu Tree

In the menus of the service mode, following 4 menus are related with the fax. And each of these menus includes sub menus.

Supplement: See “2.1. SERVICE OPERATION MODE” for details of menu trees.

Counter ..... Counter of Each Mode (Mode)

FAX ..... The line 1/2 can be specified.

When the Line 2 is specified, only the Modem/NCU, Communication, Network and Initialization items are displayed.

Modem/NCU

System

Communication

Function Parameter

Network

Fax File Format

List Output

Initialization

List Output ..... Parameter List

Service Parameter

Protocol Trace (Last)

Protocol Trace (Error)

Fax Setting List

Fax Analysis List (varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".)

Test Mode ..... Fax Test (See “TEST MODE” on page 4-1)

(The line 1/2 can be specified.)

Network Fax Settings ..... Set the ON/OFF of the IP Address Fax/Internet Fax function.

NOTE

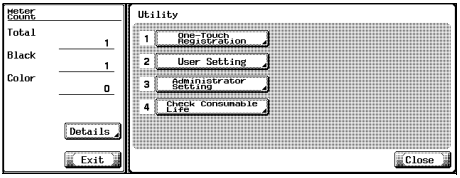
- **Extension Line (Line2) varies depending on models. Refer to “Differences of Functions by Model (as of Aug.11. 2006)” on page 9-35.**

3.1.3 How to Enter the Service Mode

<Operational Procedure>

(1) Press [Utility/Counter] button of the control panel.

(2) Press [Details Check].

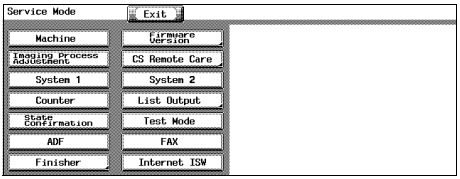


(3) Press [STOP] button and press [0], [0] with keypad.

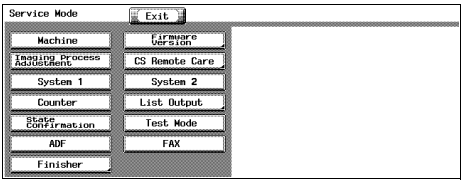
(4) Press [STOP] button and press [0], [1] with keypad.

[Service mode setting] screen will appear.

In case of C450/C352/C351/C300/C252/C250



In case of 750/600, 500/420



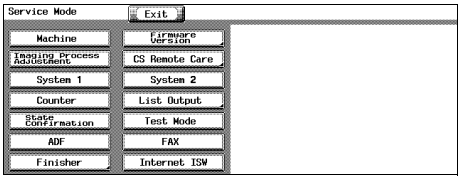
3.2.FUNCTION PARAMETER SETTING

3.2.1 Modem/NCU

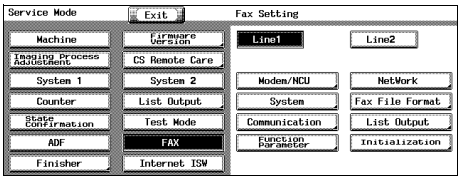
<Operational Procedure>

(1) See "3.1.3 How to Enter the Service Mode" to display the [Service mode setting] screen.

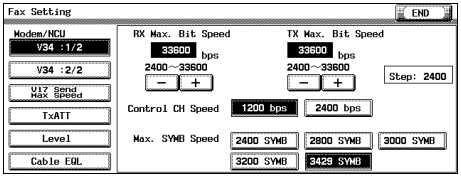
(2) Press the [FAX] key.



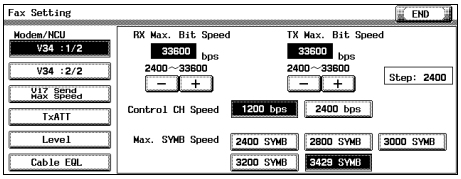
(3) Press the [Modem/NCU] key.



(4) Use the key provided on the left side of the screen to select a menu to be set.



(5) Select the item and change parameter setting by pressing the [+] key / [-] key.



(6) Press the [END] key to return Service Mode screen.

Parameter		Set Value	Factory-shipped Default Setting	Reference
V34:1/2	Rx Max.Bit Speed	33600 to 2400 [bps] (in steps of 2400)	33600 [bps]	
	Tx Max.Bit Speed	33600 to 2400 [bps] (in steps of 2400)	33600 [bps]	
	Control CH Speed	2400, 1200 [bps]	1200 [bps]	Yes
	Max.SYMB Speed	3429, 3200, 3000, 2800, 2400[SYMB]	3429 [SYMB]	Yes
V34:2/2	SYMB Select Criterion	-6 to +6 [dB] (in steps of 1dB)	0 [dB]	Yes
	Main CH Speed Selection Standard	-8 to +7 [dB] (in steps of 1dB)	0 [dB]	Yes
	SYMB Select Criterion (Distortion)	-6 to +6 [dB] (in steps of 1dB)	0 [dB]	Yes
V17 Send Max Speed	TX Max.Speed	V17-14400 to V27-2400 [bps]	V17-14400 [bps]	
	RX Max.speed	V17-14400 to V27-4800 [bps]	V17-14400 [bps]	
TxATT	PIX TxATT	The setting value are different depending on the country.		Yes
	TONE/Procedure Signal TxATT			Yes
	CED/ANSam TxATT			Yes
	DTMF TxATT			
Level	CD/SED ON Level	-33 to -48 [dBm]	-48 [dBm]	Yes
	DTMF H-L Level Difference	1 to 4.0 [dB] (in steps of 0.5dB)	2.0 [dB]	
Cable EQL	TX	0 - 12 [dB] (Step:4)	0 [dB]	Yes
	RX	0 - 12 [dB] (Step:4)	0 [dB]	Yes

A. Detailed Explanation

a. Max.SYMB Speed

- Maximum modulation speed (baud rate) of V.34

3429 33.6k to 4.8k
3200 31.2k to 2.4k
3000 28.8k to 2.4k
2800

2400

- Effective both at the time of sending and receiving
- The upper limit value of V.34 maximum bit speed is determined.
- Normally you do not need to change the value. In case that a V.34 error frequently occurs, you can attempt to set up SYMB3000 and decrease the symbol rate, for instance.

b. Control CH Speed

- A bit speed of the control channel
- Default is 1200 (The bit speed of many modems is 1200.)
- The negotiation of 2400/1200 is performed in the V.34 start-up procedure.
- Normally you do not need to change the setting.

c. SYMB Select Criterion (Distortion)

- S/N is measured by sending and receiving line conditioning signal (L1/L2) in the Phase 2. Its result determines the SYMB speed (modulation speed).
- -6 to +6 [dB]
- Standard..... It becomes easy to select a high SYMB by using “- direction”.
- Distortion ..... It becomes easy to select a high SYMB by using “+ direction”.
- After S/N and distortion are measured, optimum SYMBOL rate is determined.

d. Main CH Speed Selection Standard

- The bit speeds of V.34 are determined by the Phase 3 (training).
- This functional parameter sets thresholds for the bit speed determination.
- -8 to +7 (dB)
- It becomes easy to select a high speed by using “- direction”.

e. PIX TxATT, TONE/Procedure Signal TxATT, CED/ANSam TxATT and DTMF TxATT

- Output level setting
- 10 to -15 [dBm] (Depends on country spec)
- Directly sets modem. there are no external attenuater.

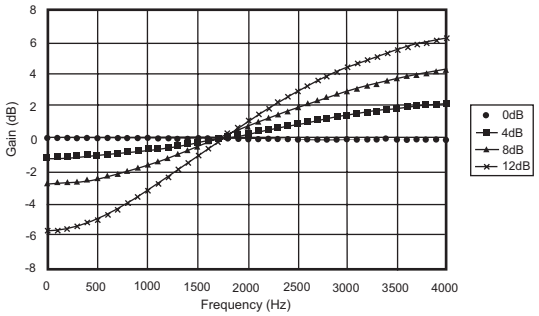
f. CD/SED ON Level

- Reception signal sensitivity level -33 to -48 [dBm] in steps of 5dBm
- SED is not used.
- Default is -48dBm.

g. TX and RX

- Frequency Response of the Cable Attenuation Equalizer

Frequency Response of the Cable Amplitude Equalizer

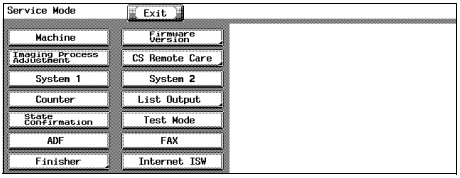


3.2.2 System

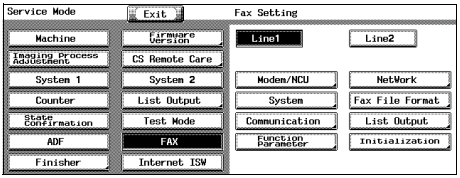
<Operational Procedure>

(1) See "3.1.3 How to Enter the Service Mode" to indicate the [Service mode setting] screen.

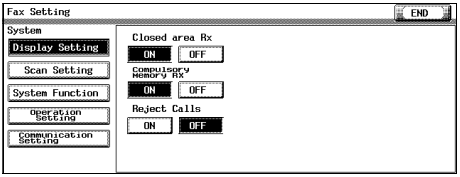
(2) Press the [FAX] key.



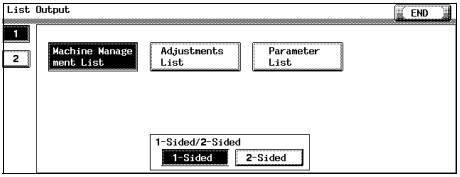
(3) Press the [System] key.



(4) Use the key provided on the left side of the screen to select a menu to be set.



(5) Select the parameter setting.



(6) Press the [END] key to return Service Mode screen.

Parameter		Set Value	Factory-shipped Default Setting	Reference
Display Setting	Closed area Rx	ON / OFF	ON	Yes
	Compulsory Memory RX	ON / OFF	ON	Yes
Scan Setting	Frame Erasure HP	5,10,15[mm]	5[mm]	Yes
	Original Reading Mode Default (bizhub 750/600, 500/420 only),	Custom Size/Normal	Custom Size	Yes
System Function	Fax Board Watchdog	ON / OFF	ON	Yes
	Fax BOOT Rewrite on ISW	ON / OFF	OFF	Yes
	Error Code Display Time	HOLD / 10 to 250[sec] (in steps of 10 sec)	20[sec]	Yes
Operation Setting	RX or Print Stop	Effective/Invalid	Effective	Yes
	Report Auto Output Stop	Effective/Invalid	Effective	Yes
Communication Setting	Auto Rotation Send (LT)	ON / OFF	OFF	Yes
	Auto Rotation Send (A4T)	ON / OFF	ON	Yes
	Error Page Resending	Error Page / All Page	Error page	Yes
	Number of Redials (Error Page)	0 to 7	The default setting is different depending on the country.	Yes

A. Detailed Explanation

a. Closed area Rx

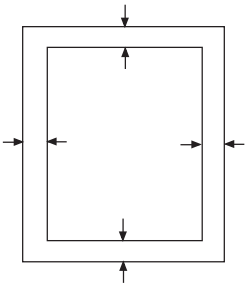
- Menu display for closed reception by using F-code for Junk FAXes.

b. Compulsory Memory Rx

- Menu display for Compulsory Memory Rx function.

c. Frame Erasure HP

- Frame erasure size at scanning
- Head, bottom, left and right are of the same



- Erases the outer lines to prevent black lines from appearing. Effective in the book transmission.

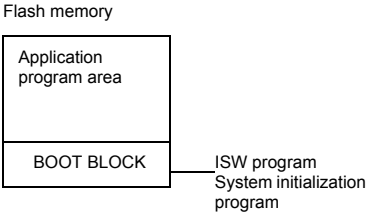
d. (Scan setting) Original Reading Mode Default (bizhub 750/600, 500/420 only)

- Default setting of User Menu

e. Fax Board Watchdog

- Watch dog by using CPU of the Fax board
- "ON": Reset when hung up.
- "OFF": Keeps being hung up.
- Normally you do not need to change the setting.

f. Fax BOOT Rewrite on ISW



- "ON": Required when a BOOT BLOCK program is upgraded or a hardware is changed.
- Normally you do not need to change the setting.

g. Error Code Display Time

- The time communication error is displayed.

h. RX or Print STOP

- Printing: The present page is printed and the printing of next page or later are stopped.
- Receiving: Results in communication error.

i. Report Auto Output Stop

- Printing: The present page is printed and the printing of next page or later are stopped.

j. Auto Rotation (LT/A4T)

- "ON": Transmits in the A4 width.
- "OFF": Transmits in the A3 width.

k. Error Page Resending

- "All page": All pages are resent.
- "Error page": From an error page are resent.

l. Number of Redials (Error Page)

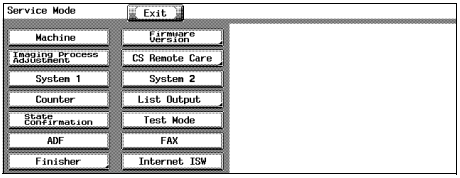
- Counted as a busy redial when the error page redial is busy.

3.2.3 Communication

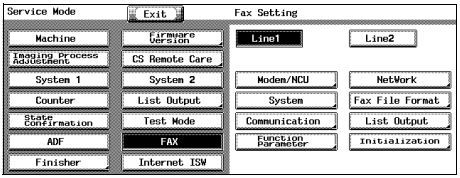
<Operational Procedure>

(1) See "3.1.3 How to Enter the Service Mode" to indicate the [Service mode setting] screen.

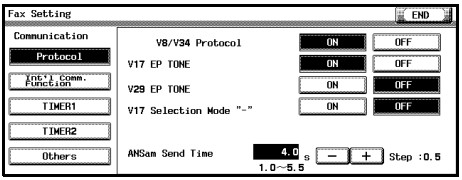
(2) Press the [FAX] key.



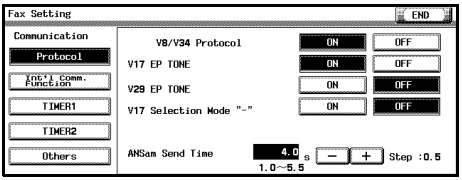
(3) Press the [Communication] key.



(4) Use the key provided on the left side of the screen to select a menu to be set.



(5) Select the item and change parameter setting by pressing the [+] key / [-] key.



(6) Press the [END] key to return Service Mode screen.

Parameter		Set Value	Factory-shipped Default Setting	Reference
Protocol	V8 / V34 Protocol	ON / OFF	ON	
	V17 EP TONE	ON / OFF	ON	Yes
	V29 EP TONE	ON / OFF	OFF	Yes
	V17 Selection Mode "-"	ON / OFF	OFF	Yes
	ANSam Send Time	1.0 to 5.5[sec] (Set the value in steps of 0.5ms.)	4.0[sec]	Yes
Int'l Comm. Function	Foreign Communication Function	ON / OFF	ON	Yes
	No. of DIS Waiting Times at Foreign Communication	1,2[times]	1[time]	
	V34 Speed	33600 to 16800[bps] (in steps of 2400)	28800[bps]	
	V17 Speed	14400 to 7200[bps] (in steps of 2400)	7200[bps]	
	V29 Speed	9600 to 2400[bps] (in steps of 2400)	4800[bps]	
TIMER 1	T1	30 to 90[second] (Set the value in steps of 5s.)	35[sec]	Yes
	DCS-TCF DELAY	50 to 150[ms] (Set the value in steps of 10ms.)	80[ms]	Yes
	CED-DIS DELAY	50 to 150[ms] (Set the value in steps of 10ms.)	80[ms]	Yes
	PIX-PMC DELAY	50 to 150[ms] (Set the value in steps of 10ms.)	80[ms]	Yes

Parameter		Set Value	Factory-shipped Default Setting	Reference
TIMER 2	EOL-EOL	4.0 to 25.5[sec] (Set the value in steps of 0.5s.)	13.0[sec]	Yes
	CFR-PIXWAIT	6.0 to 25.5[sec] (Set the value in steps of 0.5s.)	6.0[sec]	Yes
	EOM-PIXWAIT	5.5 to 25.5[sec] (Set the value in steps of 0.5s.)	5.5[sec]	Yes
	JM WAIT	6.0 to 25.5[sec] (Set the value in steps of 0.5sec.)	9.0[sec]	Yes
Others	ECM Function	ON / OFF	ON	
	Frame Size at ECM TX	256,64	256	
	Coding Ability	MH, MH/MR, MH/MR/MMR, MH/MR/MMR/JBIG	MH/MR/ MMR/JBIG	Yes

NOTE

- **When Line 2 is selected, V8/V34 Protocol of [Protocol], all items of [Int'l Comm. Function], and all items of [Others] can be set.**

A. Detailed Explanation

a. V17 EP TONE and V29 EP TONE

- Whether the EP tone (Echo Protect: 2100Hz) is added to the top of the training signal.

b. V17 Selection Mode "-"

- V.34 is not used when a dash (-) is added at the top of dial number.

c. ANSam Send Time

- Determines the ANSam output time of V.8 procedure signal.
- Normally you do not need to change.

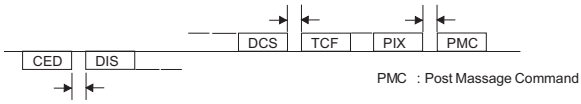
d. Foreign Communication Function

- V.34, V.17 and V.29 International communication mode speed
- The mode using the number of DIS waiting is turned ON.
- The international communication mode setting at the time of transmission becomes effective.

e. T1

- T1 timer (T.30 standard) :Calling: designate by the response waiting timer
  Called: Starts after DIS is output.
  The waiting time until DCS is received.
- Response waiting timer (55sec)
  : Calling : Starts after dialing. Until CED is received.

f. DELAY TIMER



g. EOL-EOL

h. CFR-PIXWAIT

- Sets the waiting time from CFR is sent to the image signals are received. Radio fax on boats occasionally requires more than 6 sec.

i. EOM-PIXWAIT

j. Some fax machines sends PIX without returning to Phase B in spite of EDM. Waiting time to receive PIX before sending DIS when EOM is used.

k. JM WAIT

- Time to continue outputting CM until receiving JM. Some machines cannot receive CM with simultaneously sending ANSam.

l. Coding Ability

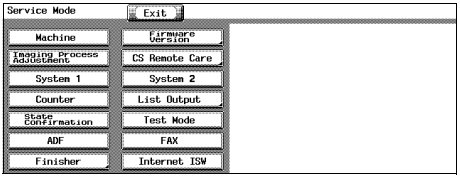
- Effective to both sending and reception.

3.2.4 Function Parameter

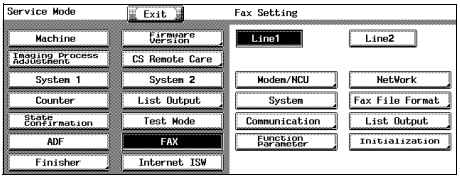
<Operational Procedure>

(1) See "3.1.3 How to Enter the Service Mode" to indicate the [Service mode setting] screen.

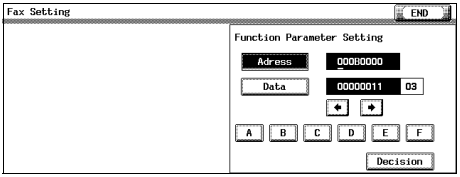
(2) Press the [FAX] key.



(3) Press the [Function Parameter Setting] key.



(4) Select the address and then, enter the address using [A] - [F] key or keypad.



A Cursor is movable if ◀ or ▶ is pushed.

(5) Next, select the data and enter a value using binary numbers with keypad.

(6) When the address and the value are correct, press the [Decision] key.

(7) After the settings have been completed, press the [END] key.

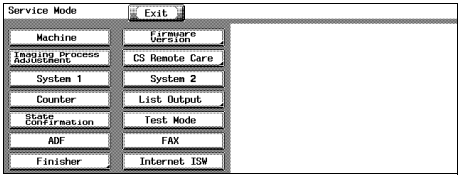
Note: See "9.1. ADDRESS PARAMETER LIST" for the list of address parameters.

3.2.5 Network

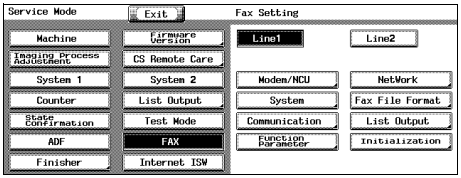
<Operational Procedure>

(1) See "3.1.3 How to Enter the Service Mode" to indicate the [Service mode setting] screen.

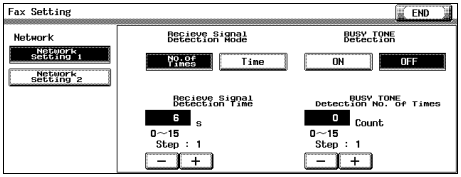
(2) Press the [FAX] key.



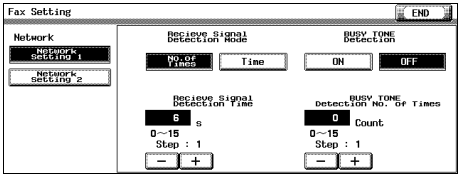
(3) Press the [Network] key.



(4) Use the key provided on the left side of the screen to select a menu to be set.



(5) Select the item and change parameter setting by pressing the [+] key / [-] key.



(6) Press the [END] key to return Service Mode screen.

Parameter		Set Value	Factory-shipped Default Setting	Reference
Network Setting 1	Receive Signal Detection Mode	No. of Times / Time	No. of Times	Yes
	Receive Signal Detect Time	0 to 15[sec] (in steps of 1 sec)	6 [sec]	
	BUSY TONE Detection	ON / OFF	ON	Yes
	BUSY TONE Detection No. of Times	0 to 15 (Zero time equals to no detection.)	The default setting is different depending on the country.	Yes
Network Setting 2	1300 Hz Detection	ON / OFF	OFF	
	Dial Tone Detection	ON / OFF	OFF	
	DC-LOOP Check	ON / OFF	OFF	Yes
	min.RING OFF Time	0 to 1000[ms] (in steps of 100 ms)	0 [ms]	Yes
	Response Waiting Time	35 to 115[sec] (in steps of 5 seconds)	55[sec]	Yes
	Pause time	1 to 7[sec] (in steps of 1 second)	1[sec]	Yes

NOTE

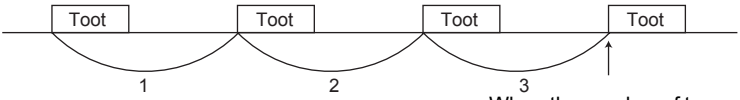
- **When Line 2 is selected, Network Setting 3 is not displayed.**

A. Detailed Explanation

a. Receive Signal Detection Mode

- Sets to “Time” when ringer can not be detected by the number.

b. BUSY TONE Detection and BUSY TONE Detection No. of Times



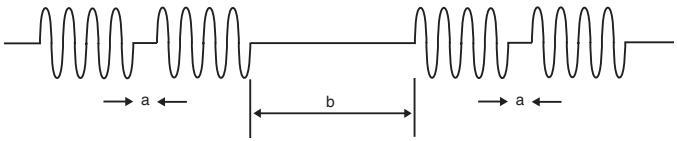
When the number of tones is set to three, judged to be busy here.

c. DC-LOOP Check

- Checks the DC loop current before dialing.
- When the current is zero, an error occurs. (T.80)
- You can change the setting to be compliant to standards in other countries. In Japan, set this parameter to OFF.

d. min. RING OFF Time

- MInimum time to recognize ringer interval.
  For country spec.



b: Ring-off time
a : To avoid judging “a” as a ring-off time.

e. Response Waiting Time

f. See “3.2.3 Communication”.

g. Pause Time

- The pause time for one pause key (pause between digits)

3.2.6 Fax File Format

The following data can be initialized.

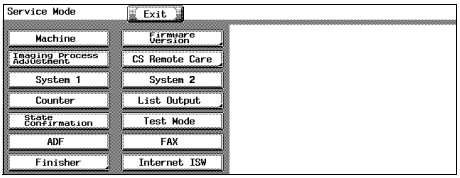
- Fax Document ..... All of the fax documents stored in the box are erased.
- Box Data ..... All of the boxes produced automatically by the F code are erased.

Supplement: For the formats of the Fax Function Parameter and the Communication Journal, see "Initialization" on page 3-20.

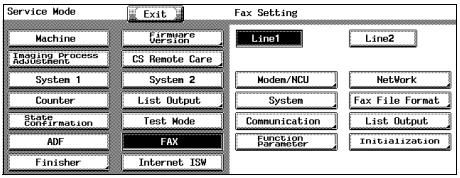
<Operational Procedure>

(1) See "3.1.3 How to Enter the Service Mode" to indicate the [Service mode setting] screen.

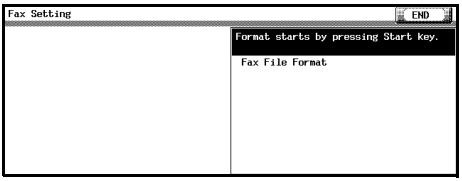
(2) Press the [FAX] key.



(3) Press the [Fax File Format] key.



(4) Press [START] key.



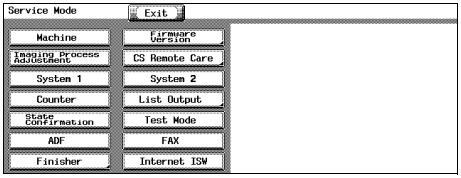
The Fax File Format is executed.

3.2.7 List Output

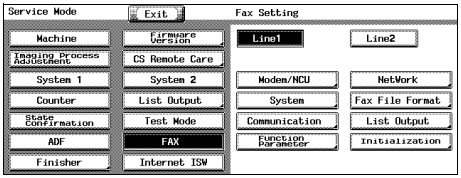
<Operational Procedure>

(1) See "3.1.3 How to Enter the Service Mode" to indicate the [Service mode setting] screen.

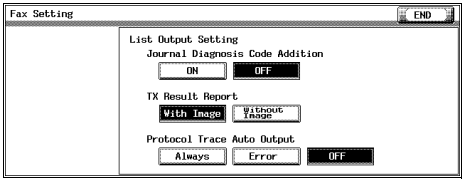
(2) Press the [FAX] key.



(3) Press the [List Output] key.



(4) Set the parameter setting.



(5) Press the [END] key to return Service Mode screen.

Parameter	Set Value	Factory-shipped Default Setting	Reference
Journal Diagnosis Code Additionl	ON/OFF	OFF	Yes
TX Result Report	With Image / Without Image	With Image	Yes
Protocol Trace Auto Output	Always / Error / OFF	OFF	

A. Detailed Explanation

a. Journal DIagnosis Code Addition

- When set to "ON,"
  - An error code is shown on the communication journal and the screen.
  - The diagnosis code is printed on the communication journal.

b. TX Result Report

Even if set to "With Image" images are not attached at the time of the quick memory transmission and the manual transmission.

3.2.8 Initialization

The following data can be initialized. Select data you want to initialize and press [Yes].

NOTE

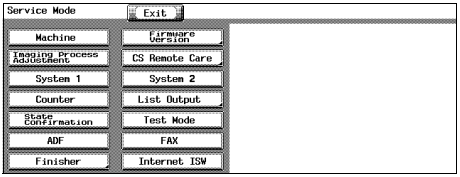
- **When Line 2 is selected, only the Fax Function Parameter can be selected.**
  - Fax Function Parameter..... The function set condition is initialized into the Factory Default condition.
  - Communication Journal Data ..... All of the Communication Journal is erased.

  Supplement: For the formats of the Abbreviated Registration Data, the Program Registration Data, The Group Registration Data, and the F-code Box Data, see "Fax File Format" on page 3-18.

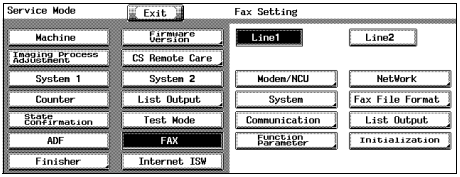
<Operational Procedure>

(1) See "3.1.3 How to Enter the Service Mode" to indicate the [Service mode setting] screen.

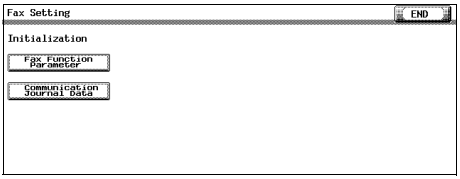
(2) Press the [FAX] key.



(3) Press the [Initialization] key.

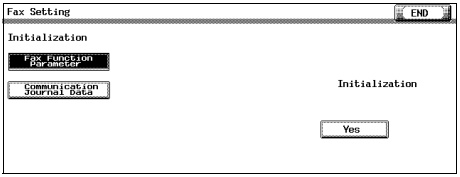


(4) Select data you want to initialize.

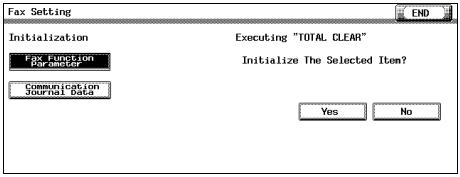


Supplement: Two or more selections are possible for data.

(5) Press [Yes].



(6) When a verification message is displayed, press [Yes].



The data selected is initialized.

3.3.LIST PRINT

The following lists can be output. (Single Sided/Double Sided can be selected in some models.)

- Parameter List

Output a nonvolatile parameter list.

- Service Parameter

Output a FAX Service Mode set value list.

- Protocol Trace List (Last)

The facsimile protocol of the communication which was executed previously is output.

- Protocol Trace List (Error)

Output the facsimile procedure for the last error communication.

- Fax Setting List

Output a FAX user set value list. (Items vary depending on models.)

- Fax Analysis List (Varies depending on models. Refer to "9.3. Differences of Functions by Model (as of Aug.11. 2006)".)

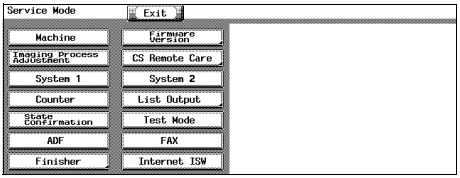
Following list is output in the Fax Analysis List.

- Parameter List
- Machine Management List
- Protocol Trace List (Error)
- Fax Setting List
- Communication Management List
- Service Parameter List

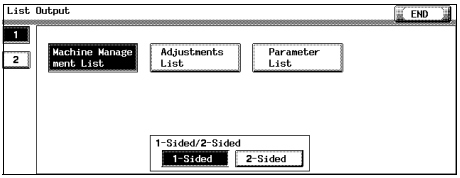
<Operational Procedure>

(1) See “3.1.3 How to Enter the Service Mode” to indicate the [Service mode setting] screen.

(2) Press the [List Output] key.



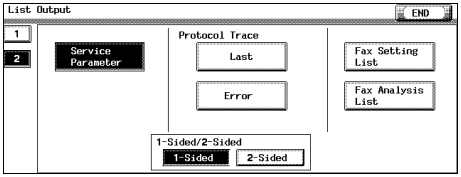
(3) Press [1] or [2] key.



(4) Press the key of list you want to output and select [Single sided] or [Double sided], then press the [START] button.

The selected list is printed.

(5) Press the [END] key to return Service Mode screen.



A. Parameter List sample

Parameter List

P 1
15/12/2004 11:08
Serial No. 311700009
TC: 13

FAX_JOB.data

No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX
080000 =	00000011	(03)	080001 =	00000001	(01)	080002 =	00000001	(01)	080003 =	00001000	(08)
080004 =	00000001	(01)	080005 =	00000000	(00)	080006 =	00000011	(03)	080007 =	11110100	(F4)
080008 =	00000000	(00)	080009 =	00011111	(1F)	08000A =	01011010	(5A)	08000B =	01011101	(5D)
08000C =	00000000	(00)	08000D =	01011101	(5D)	08000E =	01100000	(60)	08000F =	00000000	(00)
080010 =	00000011	(03)	080011 =	00000000	(00)	080012 =	11111111	(FF)	080013 =	11111111	(FF)
080014 =	11111111	(FF)	080015 =	11111111	(FF)	080016 =	00010000	(10)	080017 =	00100000	(20)
080018 =	00100000	(20)	080019 =	00100000	(20)	08001A =	00100000	(20)	08001B =	00100000	(20)
08001C =	00100000	(20)	08001D =	00100000	(20)	08001E =	00100000	(20)	08001F =	00100000	(20)
080020 =	00100000	(20)	080021 =	00100000	(20)	080022 =	00100000	(20)	080023 =	00100000	(20)
080024 =	00100000	(20)	080025 =	00100000	(20)	080026 =	00100000	(20)	080027 =	00100000	(20)
080028 =	00100000	(20)	080029 =	00100000	(20)	08002A =	00100000	(20)	08002B =	00000001	(01)
08002C =	00000000	(00)	080020 =	00000000	(00)	08002E =	00000011	(03)	08002F =	00000001	(01)
080030 =	00000001	(01)	080031 =	00001011	(0B)	080032 =	00000111	(07)	080033 =	00000111	(07)
080034 =	00000000	(00)	080035 =	00000000	(00)	080036 =	00000000	(00)	080037 =	00000000	(00)
080038 =	00000000	(00)	080039 =	00000100	(04)	08003A =	00100000	(20)	08003B =	00100000	(20)
08003C =	00100000	(20)	080030 =	00100000	(20)	08003E =	00100000	(20)	08003F =	00100000	(20)
080040 =	00100000	(20)	080041 =	00100000	(20)	080042 =	00100000	(20)	080043 =	00100000	(20)
080044 =	00100000	(20)	080045 =	00100000	(20)	080046 =	00100000	(20)	080047 =	00100000	(20)
080048 =	00100000	(20)	080049 =	00100000	(20)	08004A =	00100000	(20)	08004B =	00100000	(20)
08004C =	00100000	(20)	08004D =	00100000	(20)	08004E =	00100000	(20)	08004F =	00100000	(20)
080050 =	00100000	(20)	080051 =	00100000	(20)	080052 =	00100000	(20)	080053 =	00100000	(20)
080054 =	00100000	(20)	080055 =	00100000	(20)	080056 =	00100000	(20)	080057 =	00100000	(20)
080058 =	00100000	(20)	080059 =	00100000	(20)	08005A =	00100000	(20)	08005B =	00100000	(20)
08005C =	00100000	(20)	080050 =	00100000	(20)	08005E =	00100000	(20)	08005F =	00100000	(20)
080060 =	00100000	(20)	080061 =	00100000	(20)	080062 =	00100000	(20)	080063 =	00100000	(20)
080064 =	00100000	(20)	080065 =	00100000	(20)	080066 =	00100000	(20)	080067 =	00100000	(20)
080068 =	00000000	(00)	080069 =	00000000	(00)	08006A =	00000000	(00)	08006B =	00000000	(00)
08006C =	00000000	(00)	08006D =	00000000	(00)	08006E =	00000000	(00)			

FAX_GFP.data

No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX
0E0000 =	00000001	(01)	0E0001 =	00010000	(10)	0E0002 =	01000000	(40)	0E0003 =	10000000	(80)
0E0004 =	00000101	(05)	0E0005 =	00001010	(0A)	0E0006 =	00000011	(03)	0E0007 =	00000110	(06)
0E0008 =	00001001	(09)	0E0009 =	00001100	(0C)	0E000A =	00000110	(06)	0E000B =	00000000	(00)
0E000C =	11100000	(E0)	0E0000 =	00000000	(00)	0E000E =	00000000	(00)	0E000F =	00001000	(08)
0E0010 =	00001000	(08)	0E0011 =	00001000	(08)	0E0012 =	00100011	(23)	0E0013 =	00100011	(23)
0E0014 =	00001111	(0F)	0E0015 =	10000010	(82)	0E0016 =	00100011	(23)	0E0017 =	00101000	(28)
0E0018 =	00000101	(05)	0E0019 =	00110111	(37)	0E001A =	00000100	(04)	0E001B =	00000001	(01)
0E001C =	00000000	(00)	0E001D =	00000000	(00)	0E001E =	00100000	(20)	0E001F =	00100000	(20)
0E0020 =	00100000	(20)	0E0021 =	00100000	(20)	0E0022 =	00100000	(20)	0E0023 =	00100000	(20)
0E0024 =	00100000	(20)	0E0025 =	00100000	(20)	0E0026 =	00100000	(20)	0E0027 =	00100000	(20)
0E0028 =	00100000	(20)	0E0029 =	00100000	(20)	0E002A =	00100000	(20)	0E002B =	00100000	(20)
0E002C =	00100000	(20)	0E0020 =	00100000	(20)	0E002E =	00100000	(20)	0E002F =	00100000	(20)
0E0030 =	00100000	(20)	0E0031 =	00100000	(20)	0E0032 =	00100000	(20)	0E0033 =	00100000	(20)
0E0034 =	00100000	(20)	0E0035 =	00100000	(20)	0E0036 =	00100000	(20)	0E0037 =	00100000	(20)
0E0038 =	00100000	(20)	0E0039 =	00100000	(20)	0E003A =	00100000	(20)	0E003B =	00100000	(20)
0E003C =	00100000	(20)	0E003D =	00100000	(20)	0E003E =	00100000	(20)	0E003F =	00100000	(20)
0E0040 =	00100000	(20)	0E0041 =	00100000	(20)	0E0042 =	00100000	(20)	0E0043 =	00100000	(20)
0E0044 =	00100000	(20)	0E0045 =	00100000	(20)	0E0046 =	00000001	(01)	0E0047 =	00111100	(3C)
0E0048 =	00110111	(37)	0E0049 =	01011010	(5A)	0E004A =	00000000	(00)	0E004B =	00000001	(01)
0E004C =	00000000	(00)	0E004D =	00000011	(03)	0E004E =	00000000	(00)	0E004F =	01010101	(55)
0E0050 =	00000000	(00)	0E0051 =	00000000	(00)	0E0052 =	00010111	(17)	0E0053 =	10000101	(85)
0E0054 =	01111111	(7F)	0E0055 =	00000000	(00)	0E0056 =	00000000	(00)	0E0057 =	00000000	(00)
0E0058 =	00000000	(00)	0E0059 =	00000000	(00)	0E005A =	00011110	(1E)	0E005B =	00000000	(00)
0E005C =	00000000	(00)	0E005D =	00000000	(00)	0E005E =	00000011	(03)	0E005F =	00000000	(00)
0E0060 =	00000000	(00)	0E0061 =	00000000	(00)	0E0062 =	00000000	(00)	0E0063 =	00000000	(00)
0E0064 =	00000000	(00)	0E0065 =	00000000	(00)	0E0066 =	00000000	(00)	0E0067 =	00000000	(00)
0E0068 =	00000000	(00)	0E0069 =	00000000	(00)	0E006A =	00000000	(00)	0E006B =	00000000	(00)
0E006C =	00000000	(00)	0E006D =	00000000	(00)	0E006E =	00000000	(00)	0E006F =	00000000	(00)
0E0070 =	00000000	(00)	0E0071 =	00000000	(00)	0E0072 =	00000000	(00)	0E0073 =	00000000	(00)
0E0074 =	00000000	(00)	0E0075 =	00000000	(00)	0E0076 =	00000000	(00)	0E0077 =	00000000	(00)
0E0078 =	00000000	(00)	0E0079 =	00000000	(00)	0E007A =	00000000	(00)	0E007B =	00000000	(00)
0E007C =	00000000	(00)	0E007D =	00000000	(00)	0E007E =	00000000	(00)	0E007F =	00000000	(00)
0E0080 =	00000000	(00)	0E0081 =	00000000	(00)	0E0082 =	00000000	(00)	0E0083 =	00000000	(00)
0E0084 =	00000000	(00)	0E0085 =	00000000	(00)	0E0086 =	00000000	(00)	0E0087 =	00000000	(00)
0E0088 =	00000000	(00)	0E0089 =	00000000	(00)	0E008A =	00000000	(00)	0E008B =	00000000	(00)
0E008C =	00000000	(00)	0E0080 =	00000000	(00)	0E008E =	00000000	(00)	0E008F =	00000000	(00)
0E0090 =	10101010	(AA)	0E0091 =	00001010	(0A)	0E0092 =	00000011	(03)	0E0093 =	00000000	(00)

Parameter List

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Serial No. 311700009
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FAX_GFP.data

No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX
0E0094 =	00000000	(00)	0E0095 =	00000000	(00)	0E0096 =	01001010	(4A)	0E0097 =	01000000	(40)
0E0098 =	00000010	(02)	0E0099 =	00010000	(10)	0E009A =	00100000	(20)	0E009B =	00010100	(14)
0E009C =	00000110	(06)	0E009D =	00000101	(05)	0E009E =	01100110	(66)	0E009F =	00001000	(08)
0E00A0 =	00000011	(03)	0E00A1 =	01000000	(40)	0E00A2 =	00001010	(0A)	0E00A3 =	00001010	(0A)
0E00A4 =	00000010	(02)	0E00A5 =	00000001	(01)	0E00A6 =	00000000	(00)	0E00A7 =	00000000	(00)
0E00A8 =	00000000	(00)	0E00A9 =	10000000	(80)	0E00AA =	00000000	(00)	0E00AB =	00001010	(0A)
0E00AC =	00000000	(00)	0E00AD =	00000000	(00)	0E00AE =	00000000	(00)	0E00AF =	00000000	(00)
0E00B0 =	00000000	(00)	0E00B1 =	00000000	(00)	0E00B2 =	00000011	(03)	0E00B3 =	00000000	(00)
0E00B4 =	00000011	(03)	0E00B5 =	00110101	(35)	0E00B6 =	00100011	(23)	0E00B7 =	00110010	(32)
0E00B8 =	00000000	(00)	0E00B9 =	00000000	(00)	0E00BA =	00000000	(00)	0E00BB =	00000011	(03)
0E00BC =	00000000	(00)	0E00BD =	00000011	(03)	0E00BE =	00000000	(00)	0E00BF =	00000000	(00)
0E00C0 =	00000000	(00)	0E00C1 =	00000000	(00)	0E00C2 =	00000000	(00)	0E00C3 =	00000000	(00)
0E00C4 =	00000011	(03)	0E00C5 =	00000000	(00)	0E00C6 =	00000011	(03)	0E00C7 =	00000000	(00)
0E00C8 =	00000000	(00)	0E00C9 =	11111111	(FF)	0E00CA =	00000000	(00)	0E00CB =	00000000	(00)
0E00CC =	00000000	(00)	0E00CD =	00000000	(00)	0E00CE =	00000000	(00)	0E00CF =	00000000	(00)
0E00D0 =	00000000	(00)	0E00D1 =	00000000	(00)	0E00D2 =	00000011	(03)	0E00D3 =	01000110	(46)
0E00D4 =	00001100	(0C)	0E00D5 =	00000000	(00)	0E00D6 =	00001010	(0A)	0E00D7 =	00111100	(3C)
0E00D8 =	00000000	(00)	0E00D9 =	00011001	(19)	0E00DA =	00010101	(15)	0E00DB =	00111101	(3D)
0E00DC =	00001100	(0C)	0E00DD =	00001100	(0C)	0E00DE =	01010000	(50)	0E00DF =	00111101	(3D)
0E00E0 =	00001100	(0C)	0E00E1 =	00001100	(0C)	0E00E2 =	00101000	(28)	0E00E3 =	00011110	(1E)
0E00E4 =	00011110	(1E)	0E00E5 =	00001010	(0A)	0E00E6 =	00000100	(04)	0E00E7 =	01010000	(50)
0E00E8 =	00010000	(10)	0E00E9 =	00000001	(01)	0E00EA =	00000000	(00)	0E00EB =	00000000	(00)
0E00EC =	00000000	(00)	0E00ED =	00000000	(00)	0E00EE =	00010000	(10)	0E00EF =	00000000	(00)
0E00F0 =	00000001	(01)	0E00F1 =	00000000	(00)	0E00F2 =	00000010	(02)	0E00F3 =	00000110	(06)
0E00F4 =	00110111	(37)	0E00F5 =	01100100	(64)	0E00F6 =	00101010	(2A)	0E00F7 =	00100000	(20)
0E00F8 =	00010100	(14)	0E00F9 =	00000000	(00)	0E00FA =	00000000	(00)	0E00FB =	00000000	(00)
0E00FC =	00000000	(00)	0E00FD =	00000000	(00)	0E00FE =	00000000	(00)	0E00FF =	00010100	(14)
0E0100 =	00000000	(00)	0E0101 =	00010000	(10)	0E0102 =	00100000	(20)	0E0103 =	00100000	(20)
0E0104 =	00100000	(20)	0E0105 =	00100000	(20)	0E0106 =	00100000	(20)	0E0107 =	00100000	(20)
0E0108 =	00100000	(20)	0E0109 =	00100000	(20)	0E010A =	00100000	(20)	0E010B =	00100000	(20)
0E010C =	00100000	(20)	0E010D =	00100000	(20)	0E010E =	00100000	(20)	0E010F =	00100000	(20)
0E0110 =	00100000	(20)	0E0111 =	00100000	(20)	0E0112 =	00100000	(20)	0E0113 =	00100000	(20)
0E0114 =	00100000	(20)	0E0115 =	00100000	(20)	0E0116 =	00001111	(0F)	0E0117 =	00000000	(00)
0E0118 =	00111111	(3F)	0E0119 =	11111111	(FF)	0E011A =	11111111	(FF)	0E011B =	00000000	(00)
0E011C =	00000000	(00)	0E011D =	00000000	(00)	0E011E =	00000000	(00)	0E011F =	00000000	(00)
0E0120 =	00000000	(00)	0E0121 =	00000000	(00)	0E0122 =	00000000	(00)	0E0123 =	00000000	(00)
0E0124 =	00000000	(00)	0E0125 =	00000000	(00)	0E0126 =	00000000	(00)	0E0127 =	00000000	(00)
0E0128 =	00000000	(00)	0E0129 =	00000000	(00)	0E012A =	00000000	(00)	0E012B =	00000000	(00)
0E012C =	00000000	(00)	0E012D =	00000000	(00)	0E012E =	00000000	(00)	0E012F =	00000000	(00)
0E0130 =	00000000	(00)	0E0131 =	00000000	(00)	0E0132 =	00000000	(00)	0E0133 =	00000000	(00)
0E0134 =	00000000	(00)	0E0135 =	00000000	(00)	0E0136 =	00000000	(00)	0E0137 =	00000000	(00)
0E0138 =	00000000	(00)	0E0139 =	00000000	(00)	0E013A =	00000000	(00)	0E013B =	00000000	(00)
0E013C =	00000000	(00)	0E013D =	00000000	(00)	0E013E =	00000000	(00)	0E013F =	00000000	(00)
0E0140 =	00000000	(00)	0E0141 =	00000000	(00)	0E0142 =	00000000	(00)	0E0143 =	00000000	(00)
0E0144 =	00000000	(00)	0E0145 =	00000000	(00)	0E0146 =	00000000	(00)	0E0147 =	00000000	(00)
0E0148 =	00000000	(00)	0E0149 =	00000000	(00)	0E014A =	00000000	(00)	0E014B =	00000000	(00)
0E014C =	00000000	(00)	0E014D =	00000000	(00)	0E014E =	00000000	(00)	0E014F =	00000000	(00)
0E0150 =	00000000	(00)	0E0151 =	00000000	(00)	0E0152 =	00000000	(00)	0E0153 =	00000000	(00)
0E0154 =	00000000	(00)	0E0155 =	00000000	(00)	0E0156 =	00000000	(00)	0E0157 =	00000000	(00)
0E0158 =	00000000	(00)	0E0159 =	00000000	(00)	0E015A =	00000000	(00)	0E015B =	00000000	(00)
0E015C =	00000000	(00)	0E015D =	00000000	(00)	0E015E =	00000000	(00)	0E015F =	00000000	(00)
0E0160 =	00000000	(00)	0E0161 =	00000000	(00)	0E0162 =	00000000	(00)	0E0163 =	00000000	(00)
0E0164 =	00000000	(00)	0E0165 =	00000000	(00)	0E0166 =	00000000	(00)	0E0167 =	00000000	(00)
0E0168 =	00000000	(00)	0E0169 =	00000000	(00)	0E016A =	00000000	(00)	0E016B =	00000000	(00)
0E016C =	00000000	(00)	0E016D =	00000000	(00)	0E016E =	00000000	(00)	0E016F =	00000000	(00)
0E0170 =	00000000	(00)	0E0171 =	00000000	(00)	0E0172 =	00000000	(00)	0E0173 =	00000000	(00)
0E0174 =	00000000	(00)	0E0175 =	00000000	(00)	0E0176 =	00000000	(00)	0E0177 =	00000000	(00)
0E0178 =	00000000	(00)	0E0179 =	00000000	(00)	0E017A =	00000000	(00)	0E017B =	00000000	(00)
0E017C =	00000000	(00)	0E017D =	00000000	(00)	0E017E =	00000000	(00)	0E017F =	00000000	(00)
0E0180 =	00000000	(00)	0E0181 =	00000000	(00)	0E0182 =	00000000	(00)	0E0183 =	00000000	(00)
0E0184 =	00000000	(00)	0E0185 =	00000000	(00)	0E0186 =	00000000	(00)	0E0187 =	00000000	(00)
0E0188 =	00000000	(00)	0E0189 =	00000000	(00)	0E018A =	00000000	(00)	0E018B =	00000000	(00)
0E018C =	00000000	(00)	0E018D =	00000000	(00)	0E018E =	00000000	(00)	0E018F =	00000000	(00)
0E0190 =	00000000	(00)	0E0191 =	00000000	(00)	0E0192 =	00000000	(00)	0E0193 =	00000000	(00)
0E0194 =	00000000	(00)	0E0195 =	00000000	(00)	0E0196 =	00000000	(00)	0E0197 =	00000000	(00)
0E0198 =	00000000	(00)	0E0199 =	00000000	(00)	0E019A =	00000000	(00)	0E019B =	00000000	(00)
0E019C =	00000000	(00)	0E019D =	00000000	(00)	0E019E =	00000000	(00)	0E019F =	00000000	(00)
0E01A0 =	10101010	(AA)	0E01A1 =	00001010	(0A)	0E01A2 =	00000011	(03)	0E01A3 =	00000000	(00)
0E01A4 =	00000000	(00)	0E01A5 =	00000000	(00)	0E01A6 =	01001010	(4A)	0E01A7 =	01000000	(40)

Parameter List

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Serial No. 311700009
TC: 13

FAX_GFP.data

No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX
0E01A8 =	00000010	(02)	0E01A9 =	00010000	(10)	0E01AA =	00100000	(20)	0E01AB =	00010100	(14)
0E01AC =	00000110	(06)	0E01AD =	00000101	(05)	0E01AE =	01100110	(66)	0E01AF =	00001000	(08)
0E01B0 =	00000011	(03)	0E01B1 =	01000000	(40)	0E01B2 =	00001010	(0A)	0E01B3 =	00001010	(0A)
0E01B4 =	00000010	(02)	0E01B5 =	00000001	(01)	0E01B6 =	00000000	(00)	0E01B7 =	00000000	(00)
0E01B8 =	00000000	(00)	0E01B9 =	10000000	(80)	0E01BA =	00000000	(00)	0E01BB =	00001010	(0A)
0E01BC =	00000000	(00)	0E01BD =	00000000	(00)	0E01BE =	00000000	(00)	0E01BF =	00000000	(00)
0E01C0 =	00000000	(00)	0E01C1 =	00000000	(00)	0E01C2 =	00000011	(03)	0E01C3 =	00000000	(00)
0E01C4 =	00000011	(03)	0E01C5 =	00110101	(35)	0E01C6 =	00100011	(23)	0E01C7 =	00110010	(32)
0E01C8 =	00000000	(00)	0E01C9 =	00000000	(00)	0E01CA =	00000000	(00)	0E01CB =	00000011	(03)
0E01CC =	00000000	(00)	0E01CD =	00000011	(03)	0E01CE =	00000000	(00)	0E01CF =	00000000	(00)
0E01D0 =	00000000	(00)	0E01D1 =	00000000	(00)	0E01D2 =	00000000	(00)	0E01D3 =	00000000	(00)
0E01D4 =	00000011	(03)	0E01D5 =	00000000	(00)	0E01D6 =	00000011	(03)	0E01D7 =	00000000	(00)
0E01D8 =	00000000	(00)	0E01D9 =	11111111	(FF)	0E01DA =	00000000	(00)	0E01DB =	00000000	(00)
0E01DC =	00000000	(00)	0E01DD =	00000000	(00)	0E01DE =	00000000	(00)	0E01DF =	00000000	(00)
0E01E0 =	00000000	(00)	0E01E1 =	00000000	(00)	0E01E2 =	00000011	(03)	0E01E3 =	01000110	(46)
0E01E4 =	00001100	(0C)	0E01E5 =	00000000	(00)	0E01E6 =	00001010	(0A)	0E01E7 =	00111100	(3C)
0E01E8 =	00000000	(00)	0E01E9 =	00011001	(19)	0E01EA =	00010101	(15)	0E01EB =	00111101	(3D)
0E01EC =	00001100	(0C)	0E01ED =	00001100	(0C)	0E01EE =	01010000	(50)	0E01EF =	00111101	(3D)
0E01F0 =	00001100	(0C)	0E01F1 =	00001100	(0C)	0E01F2 =	00101000	(28)	0E01F3 =	00011110	(1E)
0E01F4 =	00011110	(1E)	0E01F5 =	00001010	(0A)	0E01F6 =	00000100	(04)	0E01F7 =	01010000	(50)
0E01F8 =	00010000	(10)	0E01F9 =	00000001	(01)	0E01FA =	00000000	(00)	0E01FB =	00000000	(00)
0E01FC =	00000000	(00)	0E01FD =	00000000	(00)	0E01FE =	00010000	(10)	0E01FF =	00000000	(00)
0E0200 =	00000001	(01)	0E0201 =	00000000	(00)	0E0202 =	00000010	(02)	0E0203 =	00000110	(06)
0E0204 =	00110111	(37)	0E0205 =	01100100	(64)	0E0206 =	00101010	(2A)	0E0207 =	00100000	(20)
0E0208 =	00010100	(14)	0E0209 =	00000000	(00)	0E020A =	00000000	(00)	0E020B =	00000000	(00)
0E020C =	00000000	(00)	0E020D =	00000000	(00)	0E020E =	00000000	(00)	0E020F =	00010100	(14)
0E0210 =	00000000	(00)	0E0211 =	00010000	(10)	0E0212 =	00100000	(20)	0E0213 =	00100000	(20)
0E0214 =	00100000	(20)	0E0215 =	00100000	(20)	0E0216 =	00100000	(20)	0E0217 =	00100000	(20)
0E0218 =	00100000	(20)	0E0219 =	00100000	(20)	0E021A =	00100000	(20)	0E021B =	00100000	(20)
0E021C =	00100000	(20)	0E021D =	00100000	(20)	0E021E =	00100000	(20)	0E021F =	00100000	(20)
0E0220 =	00100000	(20)	0E0221 =	00100000	(20)	0E0222 =	00100000	(20)	0E0223 =	00100000	(20)
0E0224 =	00100000	(20)	0E0225 =	00100000	(20)	0E0226 =	00001111	(0F)	0E0227 =	00000000	(00)
0E0228 =	00111111	(3F)	0E0229 =	11111111	(FF)	0E022A =	11111111	(FF)	0E022B =	00000000	(00)
0E022C =	00000000	(00)	0E022D =	00000000	(00)	0E022E =	00000000	(00)	0E022F =	00000000	(00)
0E0230 =	00000000	(00)	0E0231 =	00000000	(00)	0E0232 =	00000000	(00)	0E0233 =	00000000	(00)
0E0234 =	00000000	(00)	0E0235 =	00000000	(00)	0E0236 =	00000000	(00)	0E0237 =	00000000	(00)
0E0238 =	00000000	(00)	0E0239 =	00000000	(00)	0E023A =	00000000	(00)	0E023B =	00000000	(00)
0E023C =	00000000	(00)	0E023D =	00000000	(00)	0E023E =	00000000	(00)	0E023F =	00000000	(00)
0E0240 =	00000000	(00)	0E0241 =	00000000	(00)	0E0242 =	00000000	(00)	0E0243 =	00000000	(00)
0E0244 =	00000000	(00)	0E0245 =	00000000	(00)	0E0246 =	00000000	(00)	0E0247 =	00000000	(00)
0E0248 =	00000000	(00)	0E0249 =	00000000	(00)	0E024A =	00000000	(00)	0E024B =	00000000	(00)
0E024C =	00000000	(00)	0E024D =	00000000	(00)	0E024E =	00000000	(00)	0E024F =	00000000	(00)
0E0250 =	00000000	(00)	0E0251 =	00000000	(00)	0E0252 =	00000000	(00)	0E0253 =	00000000	(00)
0E0254 =	00000000	(00)	0E0255 =	00000000	(00)	0E0256 =	00000000	(00)	0E0257 =	00000000	(00)
0E0258 =	00000000	(00)	0E0259 =	00000000	(00)	0E025A =	00000000	(00)	0E025B =	00000000	(00)
0E025C =	00000000	(00)	0E025D =	00000000	(00)	0E025E =	00000000	(00)	0E025F =	00000000	(00)
0E0260 =	00000000	(00)	0E0261 =	00000000	(00)	0E0262 =	00000000	(00)	0E0263 =	00000000	(00)
0E0264 =	00000000	(00)	0E0265 =	00000000	(00)	0E0266 =	00000000	(00)	0E0267 =	00000000	(00)
0E0268 =	00000000	(00)	0E0269 =	00000000	(00)	0E026A =	00000000	(00)	0E026B =	00000000	(00)
0E026C =	00000000	(00)	0E026D =	00000000	(00)	0E026E =	00000000	(00)	0E026F =	00000000	(00)
0E0270 =	00000000	(00)	0E0271 =	00000000	(00)	0E0272 =	00000000	(00)	0E0273 =	00000000	(00)
0E0274 =	00000000	(00)	0E0275 =	00000000	(00)	0E0276 =	00000000	(00)	0E0277 =	00000000	(00)
0E0278 =	00000000	(00)	0E0279 =	00000000	(00)	0E027A =	00000000	(00)	0E027B =	00000000	(00)
0E027C =	00000000	(00)	0E027D =	00000000	(00)	0E027E =	00000000	(00)	0E027F =	00000000	(00)
0E0280 =	00000000	(00)	0E0281 =	00000000	(00)	0E0282 =	00000000	(00)	0E0283 =	00000000	(00)
0E0284 =	00000000	(00)	0E0285 =	00000000	(00)	0E0286 =	00000000	(00)	0E0287 =	00000000	(00)
0E0288 =	00000000	(00)	0E0289 =	00000000	(00)	0E028A =	00000000	(00)	0E028B =	00000000	(00)
0E028C =	00000000	(00)	0E028D =	00000000	(00)	0E028E =	00000000	(00)	0E028F =	00000000	(00)
0E0290 =	00000000	(00)	0E0291 =	00000000	(00)	0E0292 =	00000000	(00)	0E0293 =	00000000	(00)
0E0294 =	00000000	(00)	0E0295 =	00000000	(00)	0E0296 =	00000000	(00)	0E0297 =	00000000	(00)
0E0298 =	00000000	(00)	0E0299 =	00000000	(00)	0E029A =	00000000	(00)	0E029B =	00000000	(00)
0E029C =	00000000	(00)	0E029D =	00000000	(00)	0E029E =	00000000	(00)	0E029F =	00000000	(00)
0E02A0 =	00000000	(00)	0E02A1 =	00000000	(00)	0E02A2 =	00000000	(00)	0E02A3 =	00000000	(00)
0E02A4 =	00000000	(00)	0E02A5 =	00000000	(00)	0E02A6 =	00000000	(00)	0E02A7 =	00000000	(00)
0E02A8 =	00000000	(00)	0E02A9 =	00000000	(00)	0E02AA =	00000000	(00)	0E02AB =	00000000	(00)
0E02AC =	00000000	(00)	0E02AD =	00000000	(00)	0E02AE =	00000000	(00)	0E02AF =	00000000	(00)

Parameter List

P 4
15/12/2004 11:09
Serial No. 311700009
TC: 13

FAX_GSW.data

No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX
0F0000 =	10101010	(AA)	0F0001 =	00000000	(00)	0F0002 =	10111011	(BB)	0F0003 =	00000000	(00)
0F0004 =	00011111	(1F)	0F0005 =	00001110	(0E)	0F0006 =	01000110	(46)	0F0007 =	00011011	(1B)
0F0008 =	11111100	(FC)	0F0009 =	11111111	(FF)	0F000A =	00111111	(3F)	0F000B =	00000101	(05)
0F000C =	00000101	(05)	0F000D =	00000101	(05)	0F000E =	00000101	(05)	0F000F =	00000001	(01)
0F0010 =	00111001	(39)	0F0011 =	00000111	(07)	0F0012 =	00000000	(00)	0F0013 =	00000000	(00)
0F0014 =	00000000	(00)	0F0015 =	00000000	(00)	0F0016 =	00000000	(00)	0F0017 =	00000000	(00)
0F0018 =	00000000	(00)	0F0019 =	00000000	(00)	0F001A =	00000000	(00)	0F001B =	00000000	(00)
0F001C =	00000000	(00)	0F001D =	00000000	(00)	0F001E =	00000000	(00)	0F001F =	00000000	(00)
0F0020 =	10101010	(AA)	0F0021 =	00000001	(01)	0F0022 =	10111011	(BB)	0F0023 =	00000001	(01)
0F0024 =	00011111	(1F)	0F0025 =	00001110	(0E)	0F0026 =	01000110	(46)	0F0027 =	00011011	(1B)
0F0028 =	11111100	(FC)	0F0029 =	11111111	(FF)	0F002A =	00111111	(3F)	0F002B =	00000101	(05)
0F002C =	00000101	(05)	0F002D =	00000101	(05)	0F002E =	00000101	(05)	0F002F =	00000001	(01)
0F0030 =	00010001	(11)	0F0031 =	00000111	(07)	0F0032 =	00000000	(00)	0F0033 =	00000000	(00)
0F0034 =	00000000	(00)	0F0035 =	00000000	(00)	0F0036 =	00000000	(00)	0F0037 =	00000000	(00)
0F0038 =	00000000	(00)	0F0039 =	00000000	(00)	0F003A =	00000000	(00)	0F003B =	00000000	(00)
0F003C =	00000000	(00)	0F003D =	00000000	(00)	0F003E =	00000000	(00)	0F003F =	00000000	(00)

FAX_GHP.data

No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX
100000 =	00100010	(22)	100001 =	00000001	(01)	100002 =	00010001	(11)	100003 =	00000001	(01)
100004 =	00011111	(1F)	100005 =	00001110	(0E)	100006 =	01000110	(46)	100007 =	00011011	(1B)
100008 =	11110000	(F0)	100009 =	11111111	(FF)	10000A =	00111111	(3F)	10000B =	00000101	(05)
10000C =	00000101	(05)	10000D =	00000101	(05)	10000E =	00000101	(05)	10000F =	00000001	(01)
100010 =	00010001	(11)	100011 =	00000000	(00)	100012 =	00000000	(00)	100013 =	00000000	(00)
100014 =	00000000	(00)	100015 =	00000000	(00)	100016 =	00000000	(00)	100017 =	00000000	(00)
100018 =	00000000	(00)	100019 =	00000000	(00)	10001A =	00000000	(00)	10001B =	00000000	(00)
10001C =	00000000	(00)	10001D =	00000000	(00)	10001E =	00000000	(00)	10001F =	00000000	(00)
100020 =	00100010	(22)	100021 =	00000001	(01)	100022 =	00010001	(11)	100023 =	00000001	(01)
100024 =	00011111	(1F)	100025 =	00001110	(0E)	100026 =	01000110	(46)	100027 =	00011011	(1B)
100028 =	11110000	(F0)	100029 =	11111111	(FF)	10002A =	00111111	(3F)	10002B =	00000101	(05)
10002C =	00000101	(05)	10002D =	00000101	(05)	10002E =	00000101	(05)	10002F =	00000001	(01)
100030 =	00010001	(11)	100031 =	00000000	(00)	100032 =	00000000	(00)	100033 =	00000000	(00)
100034 =	00000000	(00)	100035 =	00000000	(00)	100036 =	00000000	(00)	100037 =	00000000	(00)
100038 =	00000000	(00)	100039 =	00000000	(00)	10003A =	00000000	(00)	10003B =	00000000	(00)
10003C =	00000000	(00)	10003D =	00000000	(00)	10003E =	00000000	(00)	10003F =	00000000	(00)

FAX_LIST.data

No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX
120000 =	00000000	(00)	120001 =	00000000	(00)	120002 =	00000000	(00)	120003 =	00000000	(00)
120004 =	00111001	(39)	120005 =	00000000	(00)	120006 =	00000000	(00)	120007 =	00000000	(00)
120008 =	00000000	(00)	120009 =	00000000	(00)	12000A =	10100011	(A3)	12000B =	00000000	(00)
12000C =	01100001	(61)	12000D =	00000000	(00)	12000E =	00000000	(00)	12000F =	00000000	(00)
120010 =	00000000	(00)	120011 =	00000000	(00)	120012 =	00000000	(00)	120013 =	00000000	(00)
120014 =	00000000	(00)	120015 =	00000000	(00)	120016 =	00000000	(00)	120017 =	00000000	(00)
120018 =	00000000	(00)	120019 =	00000000	(00)	12001A =	00000000	(00)	12001B =	00000000	(00)
12001C =	00000000	(00)	12001D =	00000000	(00)	12001E =	00000000	(00)	12001F =	00000000	(00)

FAX_PANEL.data

No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX
130000 =	00010001	(11)	130001 =	01000001	(41)	130002 =	00000100	(04)	130003 =	00000110	(06)
130004 =	00001001	(09)	130005 =	00000101	(05)	130006 =	00000001	(01)	130007 =	00001001	(09)
130008 =	00000011	(03)	130009 =	00000000	(00)	13000A =	00000010	(02)	13000B =	00010100	(14)
13000C =	00000000	(00)	13000D =	00000101	(05)	13000E =	00000000	(00)	13000F =	00000000	(00)
130010 =	00000000	(00)	130011 =	00000000	(00)	130012 =	00000000	(00)	130013 =	00000000	(00)
130014 =	00000000	(00)	130015 =	00000000	(00)	130016 =	00000000	(00)	130017 =	00000000	(00)
130018 =	00000000	(00)	130019 =	00000000	(00)	13001A =	00000000	(00)	13001B =	00000000	(00)
13001C =	00000000	(00)	13001D =	00000000	(00)	13001E =	00000000	(00)	13001F =	00000000	(00)
130020 =	00000000	(00)	130021 =	00000000	(00)	130022 =	00000000	(00)	130023 =	00000000	(00)
130024 =	00000000	(00)	130025 =	00000000	(00)	130026 =	00000000	(00)	130027 =	00000000	(00)
130028 =	00000000	(00)	130029 =	00000000	(00)	13002A =	00000000	(00)	13002B =	00000000	(00)
13002C =	00000000	(00)	13002D =	00000000	(00)	13002E =	00000000	(00)	13002F =	00000000	(00)
130030 =	00000000	(00)	130031 =	00000000	(00)	130032 =	00000000	(00)	130033 =	00000000	(00)
130034 =	00000000	(00)	130035 =	00001011	(0B)	130036 =	00001110	(0E)	130037 =	01000000	(40)
130038 =	00000000	(00)	130039 =	00000000	(00)	13003A =	00000000	(00)	13003B =	00000000	(00)
13003C =	00000000	(00)	13003D =	00000000	(00)	13003E =	00000000	(00)	13003F =	00000000	(00)

Parameter List

P 5
15/12/2004 11:09
Serial No. 311700009
TC: 13

FAX_PANEL.data

No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX	No.	BIT	HEX
130040 =	00000000	(00)	130041 =	00000000	(00)	130042 =	00000001	(01)	130043 =	00000001	(01)
130044 =	00000000	(00)	130045 =	00000000	(00)	130046 =	00000000	(00)	130047 =	00000000	(00)
130048 =	00000000	(00)	130049 =	00000000	(00)	13004A =	00000000	(00)	13004B =	00000000	(00)
13004C =	00000000	(00)	130040 =	00000000	(00)	13004E =	00000000	(00)	13004F =	00000000	(00)
130050 =	00000000	(00)	130051 =	00000000	(00)	130052 =	00000000	(00)	130053 =	00000000	(00)
130054 =	00000000	(00)	130055 =	00000000	(00)	130056 =	00000000	(00)	130057 =	00000000	(00)
130058 =	00000000	(00)	130059 =	00000000	(00)	13005A =	00000000	(00)	13005B =	00000000	(00)
13005C =	00000000	(00)	13005D =	00000000	(00)	13005E =	00000000	(00)	13005F =	00000000	(00)
130060 =	00000000	(00)	130061 =	00000000	(00)	130062 =	00000000	(00)	130063 =	00000000	(00)
130064 =	00000000	(00)	130065 =	00000000	(00)	130066 =	00000000	(00)	130067 =	00000000	(00)
130068 =	00001010	(0A)	130069 =	00000000	(00)	13006A =	00001111	(0F)	13006B =	00000010	(02)
13006C =	00000001	(01)	13006D =	00000001	(01)	13006E =	00001111	(0F)	13006F =	00000000	(00)
130070 =	00000000	(00)	130071 =	00001111	(0F)	130072 =	00001010	(0A)	130073 =	00000001	(01)
130074 =	00000100	(04)	130075 =	00000000	(00)	130076 =	00000001	(01)	130077 =	00000000	(00)
130078 =	00000000	(00)	130079 =	00000000	(00)	13007A =	00000000	(00)	13007B =	00000001	(01)
13007C =	00000000	(00)	130070 =	00000001	(01)	13007E =	00000000	(00)	13007F =	00000000	(00)
130080 =	00000000	(00)	130081 =	00000000	(00)	130082 =	00000000	(00)	130083 =	00000001	(01)
130084 =	00001110	(0E)	130085 =	00000000	(00)	130086 =	00000000	(00)	130087 =	00000000	(00)
130088 =	00000000	(00)	130089 =	00000000	(00)	13008A =	00000000	(00)	13008B =	00000000	(00)
13008C =	00000000	(00)	13008D =	00000000	(00)	13008E =	00000000	(00)	13008F =	00000000	(00)

B. Service Parameter List sample

Service Parameter List

P 1
15/12/2004 11:09
Serial No. 311700009
TC: 13

Main Circuit

Modem/NCU

Setting	Setting	Item	Setting
V34 TX Max Bit Rate	33600 bps	V34 RX Max Bit Rate	33600 bps
V34 Max SYMB Speed	3429 SYMB	V34 Control CH Speed	1200 bps
V34 SYMB Selection Standard (S/N)	0 dB	V34 SYMB Selection Standard (Distortion)	0 dB
V34 Main CH Speed Selection Standard	0 dB	Under V17 Max. RX Speed	V17 - 14400
Under V17 Max. TX Speed	V17 - 14400	TONE/Procedure Signal TxATT	-10 dBm
PIX TxATT	-10 dBm	CD/SED ON Level	-48 dBm
CED/ANSam TxATT	-10 dBm	DTMF H-L Level Difference	2.0 dB
DTMF TxATT	-10 dBm	RX cable EQL	0 dB
TX Cable EQL	0 dB		

Communication

Item	Setting	Item	Setting
V8/V34 Protocol	ON	V17 EP TONE	ON
V29 EP TONE	OFF	T1 TIMER	35 s
Foreign Communication Function	ON	V34 Int'l Comm. Speed	28800 bps
V17 Int'l Comm. Speed	7200 bps	V29 Int'l Comm. Speed	4800 bps
No. of DIS Waiting Times at Foreign Communication	1	ECM Function	ON
Flame Size at ECM TX	256	Cording Ability	**
ANSam Send Time	4.0 s	CED-DIS DELAY TIMER	80 ms
DCS-TCF DELAY	80 ms	PIX-PWC DELAY TIMER	80 ms
EOL-EOL TIMER	13.0 s	EOM-PIXWAIT	5.5 s
CFR-PIX WAIT TIMER	6.0 s	JW WAIT TIMER	9.0 s
V17 Selection Mode "-"	OFF		

NetWork

Item	Setting	Item	Setting
Recieve Signal Detection Mode	No. of Times	Recieve Signal Detection Time	6 s
Pause Time	1 s	Response Waiting Time	55 s
DC-LOOP Check	OFF	BUSY TONE Detection	OFF
BUSY TONE Detection No. of Times	0	1300Hz Detection	OFF
Pseudo-RBT TX Level	-10 dBm	Pseudo-RBT Format	US
min. RING OFF Time	0 ms	Dial Tone Detection	ON

Service Parameter List

P. 2
15/12/2004 11:08
Serial No. 311700009
TC: 13

Main circuit

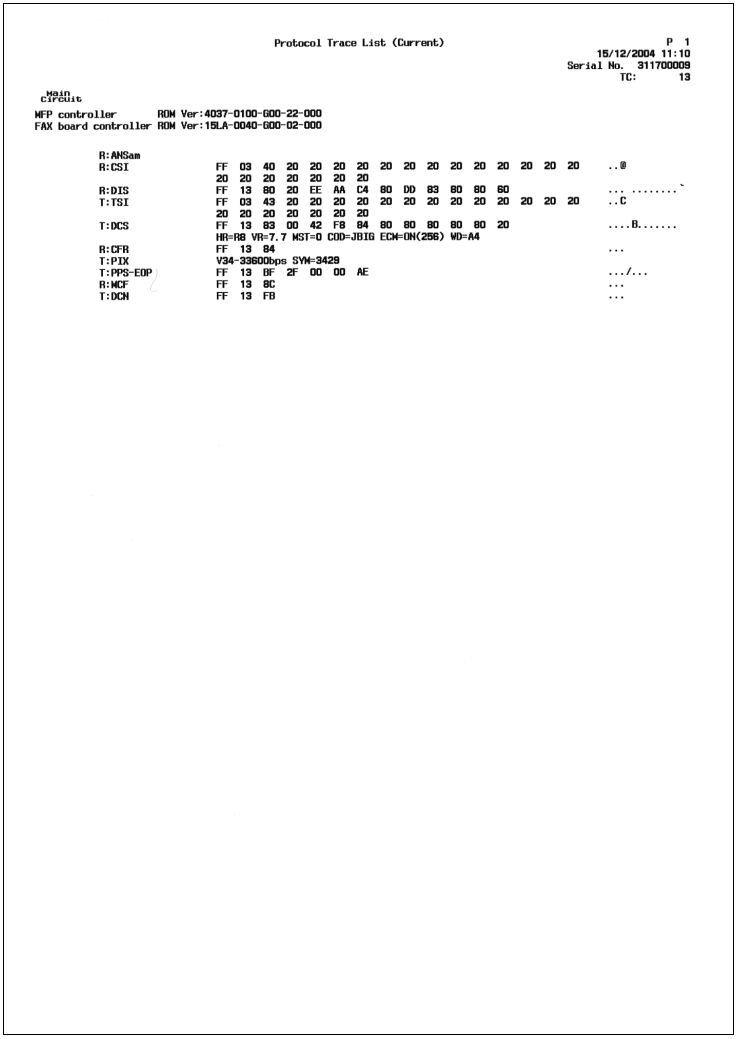
List Output

Item	Setting	Item	Setting
Protocol Trace Auto Output	OFF	TX Result Report	Without Image
Journal Diagnosis Code Addition			OFF

System

Item	Setting	Item	Setting
Frame Erasure MP	5 mm		
Auto Rotation Send(A4T)	ON	Auto Rotation Send(LT)	ON
Number of Redials(Error Page)	1	Error Page Resending	Error Page
Fax Board Watchdog	ON	Original Reading Mode Default	Custom Size
RX or Print STOP	Effective	Report Auto Output Stop	Effective
Fax BOOT Rewrite on ISW	OFF	Error Code Display Time	20 s
TX without Key Counter	Invalid	Print without Key Counter	Invalid
Confidential RX	ON	Reject Dial	OFF
Closed Network RX	ON	Dial-In Settings	OFF
Remote RX	OFF	Number Display Function	OFF
Memory RX Function	ON		

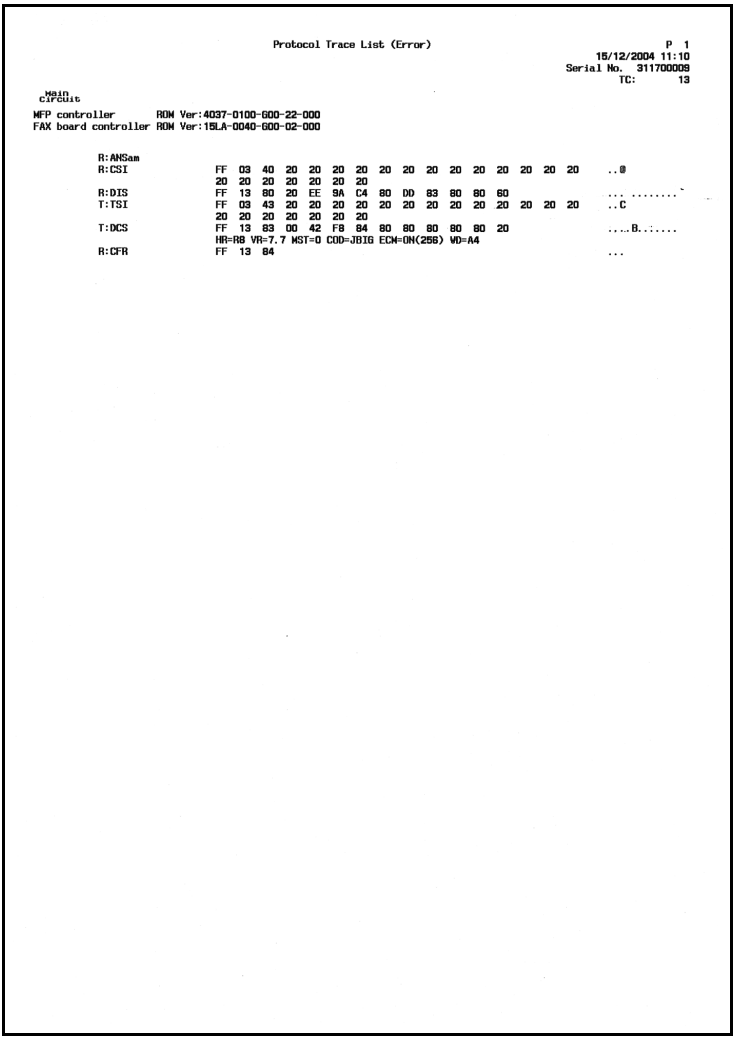
C. Protocol Trace List (Current) sample



```
                                Protocol Trace List (Current)                P 1
                                                                  15/12/2004 11:10
                                                                Serial No. 311700009
                                                                       TC:      13
 Main
circuit
WFP controller       ROM Ver:4037-0100-G00-22-000
FAX board controller ROM Ver:15LA-0040-G00-02-000

          R:ANSam
          R:CSI          FF 03 40 20 20 20 20 20 20 20 20 20 20 20 20 20    ..@
                         20 20 20 20 20 20 20 20
          R:DIS          FF 13 80 20 EE AA C4 80 DD 83 80 80 60             ... ........`
          T:TSI          FF 03 43 20 20 20 20 20 20 20 20 20 20 20 20 20    ..C
                         20 20 20 20 20 20 20 20
          T:DCS          FF 13 83 00 42 F8 84 80 80 80 80 80 20             ....B.......
                         HR=R8 VR=7.7 WST=0 COD=JBIG ECM=ON(256) WD=A4
          R:CFR          FF 13 84                                           ...
          T:PIX          V34-33600bps SYM=3429
          T:PPS-EOP      FF 13 BF 2F 00 00 AE                               .../...
          R:MCF          FF 13 8C                                           ...
          T:DCN          FF 13 FB                                           ...
```

D. Protocol Trace List (Error) sample



```
                                Protocol Trace List (Error)                    P 1
                                                                 15/12/2004 11:10
                                                              Serial No. 311700009
                                                                     TC:       13
 Main
circuit
MFP controller        ROM Ver:4037-0100-G00-22-000
FAX board controller  ROM Ver:15LA-0040-G00-02-000

          R:ANSam
          R:CSI               FF  03  40  20  20  20  20  20  20  20  20  20  20  20  20  20    ..@
                              20  20  20  20  20  20  20  20
          R:DIS               FF  13  80  20  EE  9A  C4  80  DD  83  80  80  60                ... ........`
          T:TSI               FF  03  43  20  20  20  20  20  20  20  20  20  20  20  20  20    ..C
                              20  20  20  20  20  20  20
          T:DCS               FF  13  83  00  42  F8  84  80  80  80  80  80  20                ....B.......
                              HR=R8 VR=7.7 WST=0 COD=JBIG ECM=ON(256) WD=A4
          R:CFR               FF  13  84                                                        ...
```

E. Fax Setting List sample

Fax Setting List

P 1
08/11/2006 12:34
Serial No. 311700009
IC: 7274

Panel Initial Setting

Item	Setting	Item	Setting
Default Tab	Program	Address Book Default Index	Main
Time until Auto reset	1 min.	RX Display	OFF
Panel Initial Setting	OFF	TX Display	OFF

Header Information

Item	Setting
Sender Name Sender Fax No.	MFP-01

Header/Footer Position

Item	Setting	Item	Setting
Header Position	Outside Body Text	Print Receiver's Name	ON
Footer Position	OFF		

Telephone Line Settings

Item	Setting	Item	Setting
Dialing Method	PB	Receive Mode	Auto RX
Number of RX Call Rings	2 x	Number of Redials	1 x
Redial Interval	3 min.	TEL/FAX Auto Switch	OFF
External Phone Monitor Call Sound	OFF	External Phone Call Time	20 sec
External Phone Voice Mail Setting	OFF	Line Monitor Sound	OFF
Line Monitor Sound Volume	16		

TX/RX Setting

Item	Setting	Item	Setting
Incorrect User Box No. Entry	Print	Print/Fax Output Setting	Batch Print
Enter Any Power Save Mode (Fax)	Normal	Inch Paper Priority Over A4	ON
Print Paper Size	8.5x11	Mix Size Reduction for RX Print	96
Print Separate Fax Pages	OFF	Tray Selection for RX Print	Auto
File After Polling TX	Delete	Duplex Print (RX)	OFF
RX from Rejected Fax No.	Disconnect	No. of Sets (RX)	1

Report Settings

Item	Setting	Item	Setting
Activity Report	Every 100 Comm.	TX Report	If TX Fails
Sequential TX Report	ON	Timer Reservation TX Report	ON
Confidential TX Report	ON	Bulletin TX Report	ON
Address Check	OFF	Broadcast Result Report	All Dest.
Relay TX Result Report	ON	Relay Request RX Report	ON
PC-Fax TX Error Report	OFF		
Network Fax RX Error Report	ON	E-Mail Message Body	Print
Print MDN Message	Print	Print DSN Message	Do Not Print

PBX CN Set

Item	Setting
PBX CN Mode Set	OFF

Fax Setting List

P 2
08/11/2006 12:35
Serial No. 311700009
TC: 7274

Function ON/OFF Setting

Item	Setting	Item	Setting
Number Display	OFF	F-Code TX	ON
Fcamtion	OFF	Relay RX	ON
Destination Check	OFF		
Display Function	OFF		
Relay Print			

Forward TX Setting

Item	Setting
Forward condition	OFF
Forward Dest.	unregistration

Dial-In Settings

Item	Setting	Item	Setting
Dial-In Settings	OFF	Fax Number	unregistration
Dial Number	unregistration	PC-Fax Number	unregistration

Remote RX

Item	Setting
Remote RX	OFF

Memory RX

Item	Setting
Memory RX	OFF

Closed Network RX

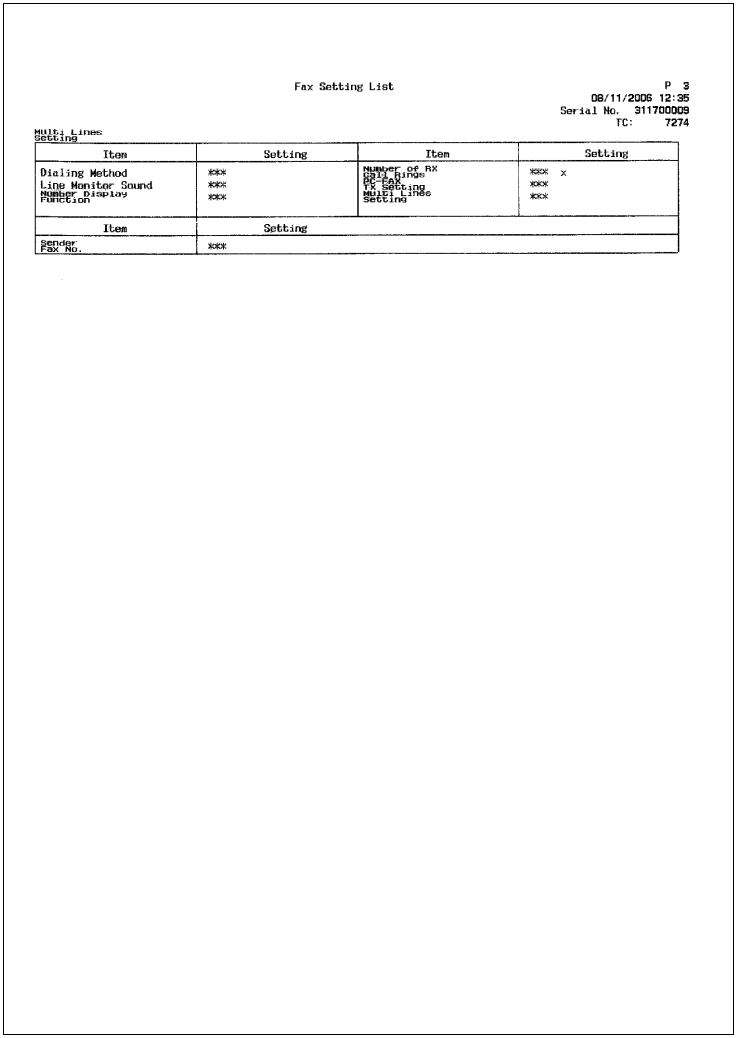
Item	Setting
Closed Network RX	OFF

PC-Fax RX Setting

Item	Setting	Item	Setting
PC-Fax RX Setting	OFF	RX Output	***
Save & Print	***	Communication Password	***

Incomplete TX Hold

Item	Setting	Item	Setting
Incomplete TX Hold	OFF	Incomplete TX Hold Time	12 Hours



Fax Setting List

P 3
08/11/2006 12:35
Serial No. 311700009
TC: 7274

Multi Lines Setting

Item	Setting	Item	Setting
Dialing Method	***	Number of RX Ring Times	*** x
Line Monitor Sound	***	RX Start	***
Number Display Function	***	TX Setting	***
		Multi Lines Setting	***

Item	Setting
Sender Fax No.	***

Fax Setting List

P 4
08/11/2006 12:35
Serial No. 311700009
TC: 7274

Internet Fax RX Ability Settings

Item	Setting
Compression Type	MH/MR/MMR
Paper Size	A4/B4/A3
Resolution	Standard/Fine/Super Fine

I-fax Advanced Settings

Item	Setting	Item	Setting
MDN Request	ON	DSN Request	OFF
MDN Response	ON	MDN/DSN Response Watch Time	24

Title List

No.	Subject

Text List

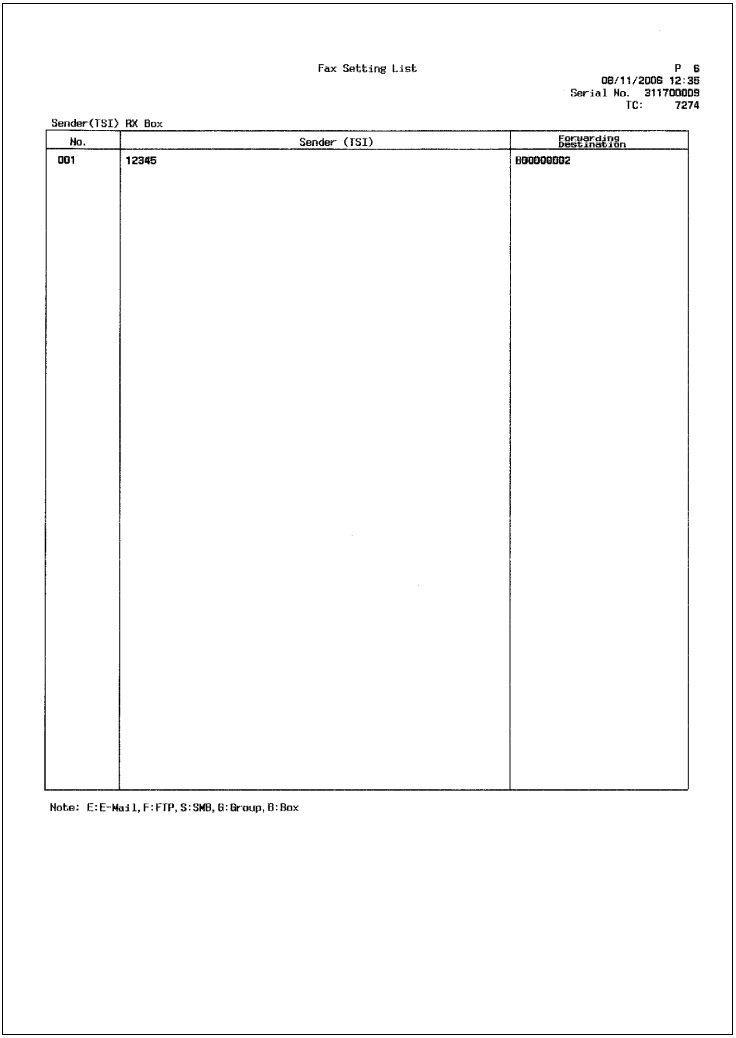
No.	Text
01	Image data has been attached to this mail.

Fax Setting List

P 5
08/11/2006 12:35
Serial No. 311700009
TC: 7274

Relay List

No.	Group No.	Password
000000004	001	1



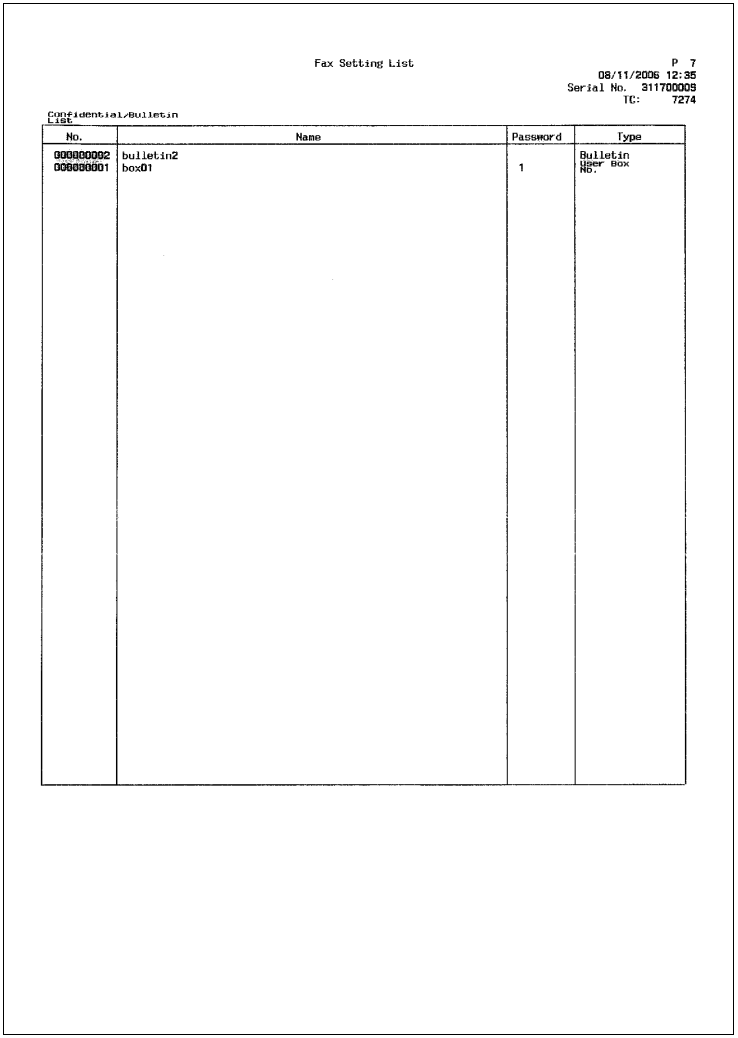
Fax Setting List

P 6
08/11/2006 12:35
Serial No. 311700009
TC: 7274

Sender(TSI) RX Box

No.	Sender (TSI)	Forwarding Destination
001	12345	800000002

Note: E:E-Mail, F:FTP, S:SMB, G:Group, B:Box



Fax Setting List

P 7
08/11/2006 12:35
Serial No. 311700009
TC: 7274

Confidential/Bulletin List

No.	Name	Password	Type
000000002	bulletin2		Bulletin
000000001	box01	1	User Box No.

3.4.Counter of Each Mode

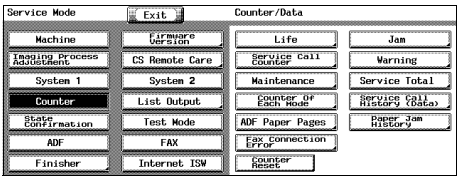
The counter of the document stored in the box and the document outputted from the box can be checked.

(1) See "3.1.3 How to Enter the Service Mode" to indicate the [Service mode setting] screen.

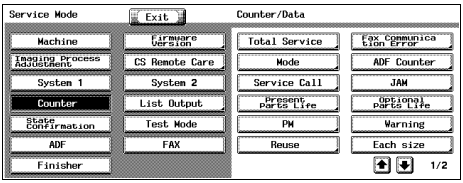
(2) Press the [Counter] key.

(3) Press [Counter of Each Mode] key or [Mode] key.

In case of C450/C352/C351/C300/C252/C250

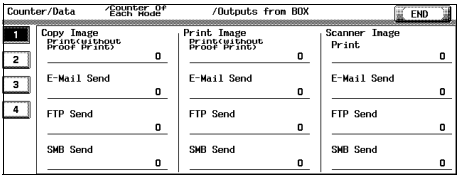


In case of 750/600, 500/420

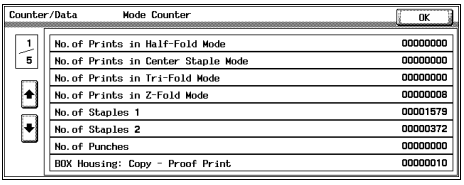


(4) In case of C450/C352/C351/C300/C252/C250, press [3] key.
In case of 750/600, 500/4200, press [↓] key.

In case of C450/C352/C351/C300/C252/C250

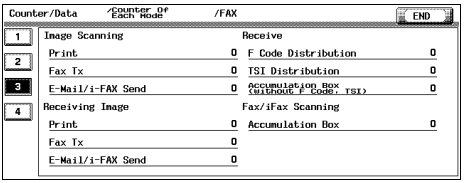


In case of 750/600, 500/420

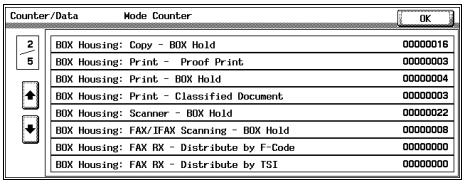

Counter/Data
Mode Counter
OK
No. of Prints in Half-Fold Mode 00000000
No. of Prints in Center Staple Mode 00000000
No. of Prints in Tri-Fold Mode 00000000
No. of Prints in Z-Fold Mode 00000008
No. of Staples 1 00001579
No. of Staples 2 00000372
No. of Punches 00000000
BOX Housing: Copy - Proof Print 00000010

(5) Check the Counter of Fax mode.

In case of C450/C352/C351/C300/C252/C250



In case of 750/600, 500/420


Counter/Data
Mode Counter
OK
2
5
BOX Housing: Copy - BOX Hold 00000016
BOX Housing: Print - Proof Print 00000003
BOX Housing: Print - BOX Hold 00000004
BOX Housing: Print - Classified Document 00000003
BOX Housing: Scanner - BOX Hold 00000022
BOX Housing: FAX/IFAX Scanning - BOX Hold 00000008
BOX Housing: FAX RX - Distribute by F-Code 00000000
BOX Housing: FAX RX - Distribute by TSI 00000000

(6) Press the [END] key to return Service Mode screen.

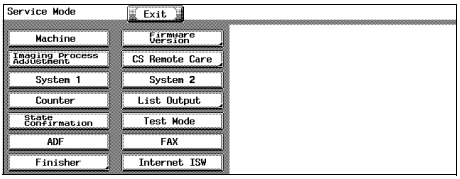
3.5.Network Fax Setting

In order to use the network fax function (Internet fax/IP address fax), you must set the following.

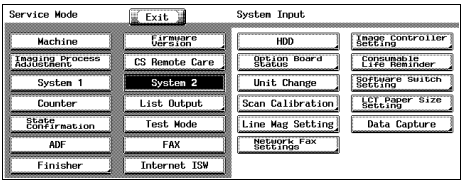
- Internet Fax The provision of a mail server is essential.
  The copier is required to be connected to the TCP/IP network in advance.
- IP Address Fax The copier is required to be connected to the TCP/IP network in advance.
  The copier is required to be provided with the Fax kit. However, the use of the sub line is unavailable.
- SIP Fax (Not Used)

(1) See "3.1.3 How to Enter the Service Mode" to indicate the [Service mode setting] screen.

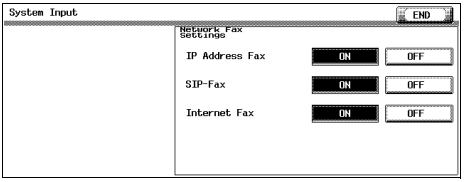
(2) Press [System 2] key.



(3) Press [Network Fax Settings] key.



(4) Set to [ON] an item you want to set.



(5) Press the [END] key to return Service Mode screen.

4 TEST MODE

4.1.OUTLINE OF THE TEST MODE

4.1.1 Service Mode and Test Mode

There is a Service Mode available for this machine. And the Service Mode includes the Test Mode as a menu for the following operation to be conducted.

- In order to deal with customers' claims after installation, setting status and operations of devices are checked and operational conditions are changed for analyzing troubles.

And also, in order to make sure that a better understanding of this manual can be obtained, the explanation of the Service Mode except the Test Mode is given in “SERVICE MODE” on page 3-1.

4.1.2 Test Mode Menu Tree

The test mode include the following three menus, each of which includes sub menus.
Supplement: See ““SERVICE OPERATION MODE” on page 2-1” for details of menu trees.

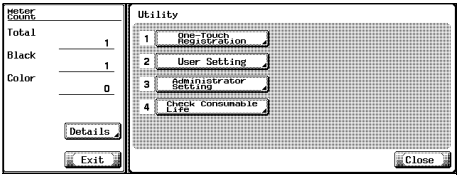
- Signal sending test
- Signal receiving test
- NCU test

4.1.3 How to Enter the Test Mode

<Operational Procedure>

(1) Press [Utility/Counter] button of the control panel.

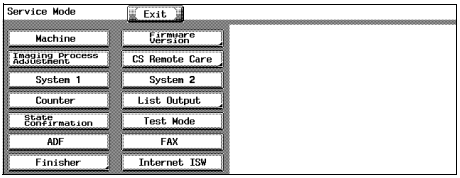
(2) Press [Details Check].



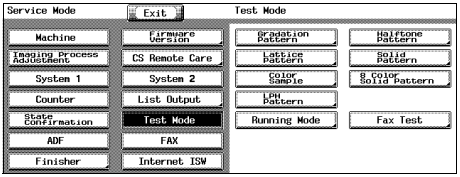
(3) Press [STOP] button and press [0], [0] with keypad.

(4) Press [STOP] button and press [0], [1] with keypad.

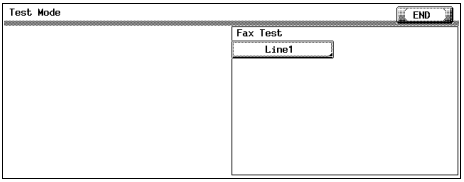
[Service mode setting] screen will appear.



(5) Press [Test Mode] and press [Fax Test].



(6) Press [Line 1] key or [Line 2] key.



NOTE

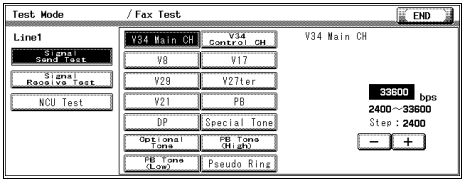
- **When the Fax Multi Line kit is installed, Line 2 can be specified.**

4.2.SIGNAL SENDING TEST

Image information signals, control signals and DTMF can be individually output. Additionally, signal sounds can be monitored by monitor speaker.

<Operational Procedure>

(1) Press [Signal Sending Test].



(2) Select a test item.

(3) Select the parameter you would like to test by pressing [+] or [-] key.

(4) Press the [Start] key.

Note: In order to move to another test, select the next test item after pressing the [Stop] key.

Contents of Test	Parameter	Factory-shipped Default Setting
V34 Main CH	33600 / 31200 / 28800 / 26400 / 24000 / 21600 / 19200 / 16800 / 14400 / 12000 / 9600 / 7200 / 4800 / 2400 [bps]	33600 [bps]
V34 Control CH	CTL CH / INFOc / INFOa / ToneB / ToneA	CTL CH
V8	CM / JM	CM
V17t	14400 / 12000 / 9600 / 7200 [bps]	14400 [bps]
V29	9600 / 7200 [bps]	9600 [bps]
V27ter	4800 / 2400 [bps]	4800 [bps]
V21	-	-
PB	0 / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9 / * / # / A / B / C / D	0
DP	0 / 1 / 2 / 3 / 4 / 5 / 6 / 7 / 8 / 9	0
Special Tone	1100 / 1300 / 1650 / 2100	1100 [Hz]
Optional Tone	200 to 4000 [Hz] (In steps of 100Hz)	200 [Hz]
PB Tone (High)	1209 / 1336 / 1477 / 1633 [Hz]	1209 [Hz]
PB Tone (Low)	697 / 770 / 852 / 941 [Hz]	697 [Hz]
Pseudo Ring	-	-

A. Detailed Explanation

a. Signal Sending Test

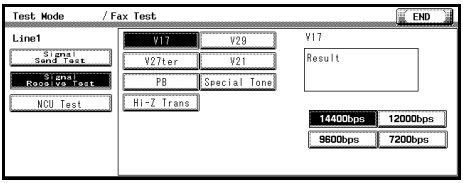
Signal is output from pressing [Start] to pressing [Stop].

4.3.SIGNAL RECEIVING TEST

Two machines are used for this test. Signal sounds can be monitored by using the monitor speaker.
Back-to-back test by connecting 2 machines directly is impossible. Use the feeding bridge or others for this purpose.

<Operational Procedure>

(1) Press [Signal Receiving Test].



(2) Select a test item.

(3) Select the parameter you would like to test by pressing [+] or [-] key.

(4) Press the [Start] key.

Note: In order to move to another test, select the next test item after pressing the [STOP] key.

Contents of Test	Parameter	Factory-shipped Default Setting
V17	14400/12000/9600/7200 [bps]	14400 [bps]
V29	9600/7200 [bps]	9600 [bps]
V27ter	4800/2400 [bps]	4800 [bps]
V21	-	-
PB	0/1/2/3/4/5/6/7/8/9/*/#/A/B/C/D	0
Special Tone	1100/1300/2100	1100
Hi-Z Trans	-	-

Supplement: The status of testing or results of tests are shown in the title line as follows
RCV: Waiting signals
OK/NG: Results of signal reception

A. Detailed Explanation

a. Hi-Z Trans

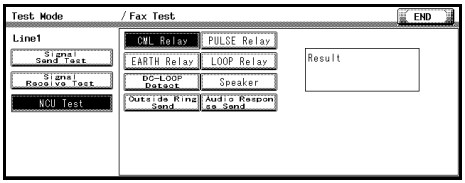
1100Hz only (No 1300Hz)

NOTE: The receiving test does not include the V.34 signal.

4.4.NCU TEST

<Operational Procedure>

(1) Press [NCU Test].



(2) Select a test item.

(3) Press the [Start] key.

Note: In order to move to another test, select the next test item after pressing the [Stop] key.

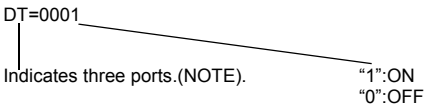
Supplement:

- When CML / PULSE / EARTH / LOOP relay test is selected and the [Start] is pressed, ON is displayed in the parameter and relay is turned to ON. When [Stop] is pressed, relay is turned OFF.
- When the DC-LOOP detection test is selected and [Start] is pressed, DT=0001 is shown in the title row in case of detecting the DC-LOOP. If not detected, DT=0000 is displayed.
- When the speaker test is selected and [Start] is pressed, On is displayed in the parameter and the speaker is turned ON. When [Stop] is pressed, the speaker is turned OFF.

Contents of Test	Relay to Be Tested
CML Relay	RL1
PULSE Relay	RL5
EARTH Relay	Not available
LOOP Relay	Not available
DC-LOOP Detect	
Speaker	
Outside Ring Send	
Audio Response Send	

A. Detailed Explanation

a. DC-LOOP Detect



NOTE: Three ports : Input port between the Fax control board and NCU board

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5 TROUBLESHOOTING

5.1.ERROR CODES

Code No.	Category	Contents of Error	How to correct
B0-00		Reserved	
B0-01	FAX Board Error	FAX Board Error 1 (FAX ROM Check Sum Error)	Pull out and insert the Fax board to check its installation. If the trouble is not yet corrected, hardware of the Fax board may be defective. Replace the Fax board in such a case.
B0-02	FAX Board Error	FAX Board Error 2 (DPRAM Check Error)	
B0-03	FAX Board Error	FAX Board Error 3 (FAX Initialization NG)	
B0-04		Reserved	
B0-05		Reserved	
B0-06		Reserved	
B0-07		Reserved	
B0-08		Reserved	
B0-09		Reserved	
B0-51		FAX board installation error (Line 1).	Pull out and insert the Fax board to check its installation. If the trouble is not yet corrected, check if the Fax (Main) is set to [Unset] on the [System 2]-[Option board Status] screen in the Service Mode. If it is set to [Unset], set to [Set].
B0-52		FAX board installation error (Line 2).	Pull out and insert the FAX board to check its installation. If the trouble is not yet corrected, check if the Fax (Sub) is set to [Unset] on the [System 2]-[Option board Status] screen in the Service Mode. If it is set to [Unset], set to [Set].
B1-10	FAX Driver Error	Instance Generation Error or Observer Registration Error	Turn OFF/ON the main power switch.
B1-11	FAX Driver Error	Configuration Space Initialization NG	
B1-12	FAX Driver Error	Semaphore Acquisition, Release Error	
B1-13	FAX Driver Error	Sequence Error among Main Body Tasks	
B1-14	FAX Driver Error	Message Queue Control Error	
B1-15	FAX Driver Error	Main Body - Sequence Error among FAX Boards	Pull out and insert the FAX board to check its installation.
B1-16	FAX Driver Error	FAX Board Nonresponse (Nonresponse after Initialization)	
B1-17	FAX Driver Error	ACK Waiting Timeout Error	
B1-18	FAX Driver Error	Receiving Undefined Frame	
B1-19	FAX Driver Error	DMA Transfer Error	
B1-20		Soft Error (Fax board side)	Turn OFF/ON the main power switch.
B1-21		Reserved	

Code No.	Category	Contents of Error	How to correct
B1-22		Device Error (GA LOCAL SRAM)	Turn OFF/ON the main power switch. If the trouble is not yet corrected, hardware of the Fax board may be defective. Replace the Fax board in such a case.
B1-23		Device Error (DRAM)	Turn OFF/ON the main power switch. If the trouble is not yet corrected, hardware of the Fax board may be defective. Replace the Fax board in such a case.
B1-24		Reserved	
B1-25		Device Error (GA)	Turn OFF/ON the main power switch. If the trouble is not yet corrected, hardware of the Fax board may be defective. Replace the Fax board in such a case.
B1-26		Timeout Error due to Nonresponse from Codec control during Suspension Process	Turn OFF/ON the main power switch.
B1-27		Timeout Error due to Nonresponse from Communication control during Suspension Process	
B1-28		Timeout Error due to Nonresponse from LINE control during Suspension Process	
B1-29		Timeout Error due to Nonresponse from File System/File Driver during Suspension Process	
B1-30	Driver Error (Fax board side)	Driver Soft Error	
B1-31	Driver Error (Fax board side)	Reception Frame Length Error from Main	
B1-32	Driver Error (Fax board side)	Reception Frame Header Error from Main	
B1-33	Driver Error (Fax board side)	232C i/f Sequence Error	
B1-34	Driver Error (Fax board side)	DPRAM i/f Sequence Error	
B1-35	Driver Error (Fax board side)	DPRAM CTL/STS Register Error	
B1-36	Driver Error (Fax board side)	ACK Waiting Timeout	
B1-37	Driver Error (Fax board side)	DPRAM RESET Reception	
B1-38		Reserved	
B1-39		Reserved	

Code No.	Category	Contents of Error	How to correct
B1-40	Soft Error (Fax board side)	MSG I/F Error with Job control	Turn OFF/ON the main power switch.
B1-41	I/F Error with Main	I/F Error with Driver	
B1-42	I/F Error with Main	Undefined Command Reception	
B1-43	I/F Error with Main	Command Frame Length Error	
B1-44	I/F Error with Main	Command Parameter Length Error	
B1-45	I/F Error with Main	Undefined Parameter	
B1-46	I/F Error with Main	Command/Response Sequence Error	
B1-47		Reserved	
B1-48		Reserved	
B1-49		Reserved	
B1-50	Line Control	External Class Instance Acquisition Error	Turn OFF/ON the main power switch.
B1-51	Line Control	Job Start Error (Starting Job Parameter Error/Child Job Generation Error)	
B1-52	Line Control	Doc Access Error (Report Buf Access Error)	
B1-53	Line Control	Response Wait Timeout from External Task	
B1-54	Line Control	Internal Que Table Control Error (create/enque/deque)	
B1-55			
B1-56			
B1-57			
B1-58			
B1-59			

Code No.	Category	Contents of Error	How to correct
B1-60	1 Destination Control	Instance Generation Error	Turn OFF/ON the main power switch.
B1-61	1 Destination Control	Timeout Error	
B1-62	1 Destination Control	Interface Error	
B1-63	1 Destination Control	Message Que Control Error	
B1-64	1 Destination Control	Semaphore Acquisition Release Error	
B1-65	1 Destination Control	Observer Registration Error	
B1-66	1 Destination Control	Reception Resource Check Error	
B1-67	1 Destination Control	Deployment Error of Sending Image Information	
B1-68	1 Destination Control	Serialization Error of Receiving Image	
B1-69	1 Destination Control	Access Error to Quick Memory Data	
B1-70	Page Control	Internal Que Table Control Error(create/enque/deque)	
B1-71	Page Control	Instance Generation Error	
B1-72	Page Control	Timeout Error	
B1-73	Page Control	Interface Error	
B1-74	Page Control	Semaphore Acquisition Release Error	
B1-75	Page Control	Observer Registration Error	
B1-76	Page Control	Unable to Check TTI Domain	
B1-77	Page Control	Error Return from TTI Rasterizer	
B1-78	Page Control	Receiving Job Generation Error	
B1-79	Page Control		
B1-80	Page Control	Access Error to Quick Sending Memory Data	Turn OFF/ON the main power switch.
B1-81	Page Control	BlockBuff Acquisition Error	
B1-82	Page Control	Sending Block Image Error (Req, Restore)	
B1-83	Page Control	Receiving Block Image Error (Req, Store)	
B1-84	Page Control	Storage Error of Receiving Image Information	
B1-85	Page Control	Receiving Data Size Logic Error (Receiving Data are not Multiples of DotLine)	
B1-86	Page Control	ImageBuf Acquisition (alloc) Error	
B1-87	Page Control	Error Return from Compressor	
B1-88	Page Control	BandBuf Control Error (newInstance/get/free)	
B1-89			

Code No.	Category	Contents of Error	How to correct
B1-90			
B1-91			
B1-92			
B1-93			
B1-94			
B1-95			
B1-96			
B1-97			
B1-98			
B1-99			

The error in the Txx/Rxx system may be caused under the effect of line noise, etc. even in usual operating condition.
If the error arises often, output the Activity Report, Fax Setting List, Protocol Trace List, Parameter List, Address Book List, Group Address List and Program List and obtain detailed information on the error status, conditions which may cause the error, etc. from the user and contact the Support Center.

Code No.	Category	Contents of Error	How to correct
T00	Sending	T1 Timeout. No response obtained from the machine on the other end of the line. (35 second)	Check that the address number is correct.
T01	Sending	T1 over after the mode has been changed (35 seconds)	
T02	Sending	DCN reception in DIS waiting	The remote station may not receive the data due to paper shortage, full memory, etc.
T03	Sending	Unexpected command reception in DIS waiting	
T04		Reserved	
T05		FIF not matching with the remote station (remote station without the function).	
T06	Sending	DCN reception in CFR/FTT waiting	
T07		Not used	
T08	Sending	Training failure at 2400bps	The line may be in trouble. Check the line noise.
T09	Sending	No response to DCS	The line may be disabled because the user on the remote station disconnected it.
T10		Reserved	
T11	Sending	DCN reception while waiting for post message responses	The remote station may not receive the data due to paper shortage, full memory, etc.
T12	Sending	Unexpected command reception while waiting for post message responses	
T13	Sending	No response while waiting for post message responses	The remote station may not receive the data due to paper shortage, full memory, etc.
T14		Not used	
T15		Reserved	
T16		Reserved	
T17		Reserved	
T18	Sending	No reception ability in a remote station	The remote station may not receive the data due to paper shortage, full memory, etc.
T19		Not used	
T20		Reserved	
T21		Reserved	
T22		Reserved	
T23		Reserved	
T24		Reserved	

Code No.	Category	Contents of Error	How to correct
T25		Reserved	
T26		Reserved	
T27		Reserved	
T28	ECM sending	Timeout by RR/RNR (60 seconds)	
T29		Not used	
T30		Not used	
T31		Not used	
T32	ECM sending	Fall back over by CTC	The line may be in trouble. Check the line noise.
T33		Not used	
T34		Not used	
T35	ECM transmission	No responses to RR	
T36	ECM transmission	DCN reception to RR	
T37		Not used	
T38	F code polling tx	SID is received when SEP is received	
T39		Reserved	
T40	Calling	Software error at calling	
T41		Reserved	
T42	Sending	RTN/PIN reception	
T43	Sending	Three continuous CRP signal reception	
T44	Sending	Time error between frames at transmission	
T45		Reserved	
T46		Reserved	
T47		Reserved	
T48	Check Destination	Line disconnected due to no match as a result of CSI check.	Telephone number may not be set on the remote station. Check the CSI signal of the remote station in the Protocol Trace List.
T49		Not used	
T50	FAX-CSRC	Host terminal ID inconsistency	
T51		Not used	
T52		Reserved	
T53		Reserved	
T54		Not used	
T55		Not used	
T56		Reserved	
T57		Reserved	
T58	Polling reception	Calling by polling reception, but a remote station does not have polling documents	Polling original may not be set on the remote station.
T59		Reserved	
T60	Polling transmission	Received the polling transmission request (DTC), but there are no polling transmission documents	Polling original may not be set on your machine. Polling TX is enabled only when the polling transmission original is registered.

Code No.	Category	Contents of Error	How to correct
T61	F-code Polling transmission	Unsatisfactory conditions for receive polling tx request.	Bulletin board original may not be set. Bulletin board TX is enabled only when the bulletin board transmission original is registered.
T62	F-code Polling transmission	Box number specified by SEP is not valid.	Bulletin board Box number from the remote station may be incorrect.
T63		Reserved	
T64		Reserved	
T65		Reserved	
T66		Reserved	
T67		Reserved	
T68		Reserved	
T69		Reserved	
T70		Reserved	
T71		Reserved	
T72		Not used	
T73	Transmission	Modem response waiting T.0 (60 seconds)	
T74	V34	No changes in the V34 modem status	
T75	V34	V34 signal sending error	
T76	V34	CS2 is not turned to ON	
T77		Reserved	
T78	Transmission	Codec control soft ware error	
T79	Transmission	Job control soft error at transmission	
T80	Call control	LOOP current detection NG when CML is turned ON at calling	
T81	Call control	Dial Tone detection NG when CML is turned ON at calling	
T82	Call control	Answer tone (CED/DIS) waiting timeout after dialing at calling	
T83	Call control	Busy tone detection at calling	
T84	Call control	Line control dial error	
T85	Call control	Short disconnection was detected after LOOP current detection at calling	
T86	Call control	Dial Tone continues after dialing	
T87		Not used	
T88		Not used	
T89	Control unit	When the control unit is connected, a communication error is caused due to capacity shortage and communication is finished.	
T90		Reserved	
T91		Reserved	
T92		Reserved	
T93		Reserved	
T94		Reserved	

Code No.	Category	Contents of Error	How to correct
T95	Call control	When called, short disconnection of LOOP current was detected during a call	
T96		Not used	
T97		Not used	
T98		Reserved	
T99	Call control	Remote stations number is deleted while waiting for abbreviated or one-touch re-dialing (redial / transmission / polling reception)	
R00	Reception	DCS was not received within 35 seconds (T1 over)	The dialed telephone number may be incorrect.
R01	Reception	T1 timeout after EOM sending	
R02	Reception	DCN reception in DCS waiting	The line may be disabled because the user on the remote station disconnected it.
R03	Reception	Unexpected command reception in DCS waiting	
R04	Reception	FIF error of DCS	
R05		Reserved	
R06		Reserved	
R07	Reception	Image information does not come in image information waiting	The line may be disabled because the user on the remote station disconnected it.
R08	Reception	CD OFF while receiving image information	
R09	Reception	DCN reception in post message waiting	
R10	Reception	Unexpected command reception in post message waiting	
R11	Reception	Command was not received which waiting for post message	The line may be disabled because the user on the remote station disconnected it.
R12	Reception	Timeout during EOL-EOL	
R13		Reserved	
R14		Reserved	
R15		Reserved	
R16		Reserved	
R17		Reserved	
R18	Reception	Resource check error (line disconnected due to ongoing communication)	Space in the hard disk may become short. Unnecessary data should be deleted to secure the space in the hard disk.
R19		Reserved	
R20	Reception	Line disconnection by receive reject function	Call was received from a user who is in the register of addresses to be rejected.
R21	CUG reception	No match of password in the Closed Network RX setting	Check the password.
R22	CUG reception	No password received in the Closed Network RX setting	Check the setting of Closed Network RX.

Code No.	Category	Contents of Error	How to correct
R23		Reserved	
R24	ECM reception	RR-RNR repeats for 2 minutes	
R25	ECM reception	Command was not received while waiting for responses to RNR	
R26	ECM reception	Unexpected command was received while waiting for responses to RNR	
R27	ECM reception	DCN reception while waiting for responses to RNR	
R28		Reserved	
R29	ECM reception	Timeout (35 seconds) between frames occurred	
R30		Reserved	
R31		Reserved	
R32	Reception	Line disconnected because there is no appropriate Confidential User Box while automatic User Box generation is inhibited.	Confidential Box No. received from the remote station may be incorrect.
R33	Reception	DIS reception to DTC (German specifications only)	
R34	F code confidential reception	PWD was received when SUB was received.	
R35			
R36			
R37	V34	CS2 is not turned to ON.	
R38	V34	No change in V34 modem and status	
R39		Not used	
R40	When called	Soft error when called	
R41		Reserved	
R42		Reserved	
R43		Reserved	
R44		Not used	
R45	Reception	Phase C timeout (NonECM reception only)	
R46		Reserved	
R47		Not used	
R48		Not used	
R49	Reception	DCN reception while waiting for image information	The line may be disabled because the user on the remote station disconnected it.
R50	Reception	No. of error lines exceeds.	The line may be in trouble. Check the line noise.
R51		Reserved	
R52		Reserved	
R53		Reserved	
R54		Reserved	
R55		Reserved	
R56		Reserved	

Code No.	Category	Contents of Error	How to correct
R57		Reserved	
R58		Reserved	
R59		Reserved	
R60	Reception	Reception image error (RTN/ PIN sending)	The line may be in trouble. Check the line noise.
R61		Not used	
R62		Not used	
R63	Reception	Three continuous CRP signal reception	
R64		Not used	
R65		Not used	
R66	SEP polling	SEP polling transmission request was received without SEP polling transmission ability	
R67	SUB reception	SUB was directed without SUB reception ability	
R68		Reserved	
R69	ECM reception	Communications are cut when EOR is received.	The line may be in trouble. Check the line noise.
R70	ECM reception	Decode error occurred in ECM	
R71	Reception	RTC detection error (No. of EOL is smaller than FP.)	
R72	Reception	Long original larger than the allowable value is received.	Longer Original than specified is received from the remote station.
R73	Reception	Modem response waiting T.0 (60 seconds)	
R74	Reception	Reception byte size error	
R75	V34	V34 signal sending error	
R76	V34	Unexpected command was received in V34 mode phase C reception	
R77	Reception	Codec control middle ware error	
R78	Reception	Codec control software error	
R79	Reception	Job control soft error during reception	
R80		Reserved	
R81		Reserved	
R82		Reserved	
R83		Reserved	
R84		Reserved	
R85		R-ISW request received when a machine is running in case of either reserved job exists, image exists in memory, or Jam happened.	
R86		Reserved	
R87		Reserved	
R88		Reserved	
R89		Reserved	
R90		Reserved	

Code No.	Category	Contents of Error	How to correct
R91		Reserved	
R92	Turnaround	When the turnaround function is not provided, the line is disconnected if a turnaround order (DTC) is received.	
R93	F-code reception	Unsatisfactory conditions for confidential Rx request	Check the Confidential password.
R94	F-code reception	Unsatisfactory conditions for relay request	Check the Relay password.
R95	F-code reception	Unsatisfactory conditions for forwarding request	
R96	F-code reception	Confidential box number specified by SUB is not valid.	Confidential Box No. received from the remote station may be incorrect.
R97	F-code reception	Unsatisfactory conditions for PC-FAX RX request (Function, PW unmatching)	
R98		Reserved	
R99	Others	Reception command was received from the whole control side before reception signals were detected.	

5.2.DIAGNOSTIC CODES

5.2.1 Outline

The diagnostic code is a 22-digit hexadecimal code indicating a communication conditions and status.

The diagnostic code is printed on the Activity Report.

The purpose of the diagnostic code is to obtain detailed information of communication results and conditions so as to analyze communication troubles.

5.2.2 Explanation

XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX XX

(1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22)

Item	Description							
	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
(1) Types of call out / called	F network called (Japan)	PSTN called	Dial-in (Japan)	Telephone	Group	One-touch dialing	Abbreviated dialing	Key pad dialing
(2) Communication Mode	Sending	Error page resending	Forwarding transmission	Polled transmission	Receiving	Recovery transmission	Called turn-around	Polling Rx
(3) Applied Function Specification	Mixed size transmission All Pages/ Cover	Frame erasure transmission	Book mode transmission	2in1transmission	Original size appointing Tx	Upside down	Special scanning non standard/Z-fold/ Long	Line used Line 1 / 2
(4) One-time Communication Parameter Specification	Timer Tx	(not used)	CSRC	PC-Fax transmission (RX/V2)	V.34 appoint transm-mission	F-code transmission	ECM Specification TX	International mode transmission
(5) Box Type/No. (9th digit)	Relay	Confidential	Manual transmission	Bulletin	BOX No. 9th digit[BCD](Top)			
(6) BOX No. (8th & 7th digits)	BOX No. 8th digit[BCD]				BOX No. 7th digit[BCD]			
(7) BOX No.(6th & 5th digits)	BOX No. 6th digit[BCD]				BOX No. 5th digit[BCD]			
(8) H_RES Specification 1 (HR)	400dpi	300dpi	200dpi	(not used)	16pels/ mm	not used	8pels/ mm	(not used)
(9) V_RES Specification 1	400dpi	300dpi	200dpi	100dpi	15.4 l/ mm	(not used)	7.7 l/mm	3.85 l/ mm
(10) Coding Specification/ H_RES Specification (600dpi)	600dpi(H)	(not used)	(JPEG)	JBIG	MMR	MR	MH	THRU

Item	Description							
	bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0
(11) Original Length Specification/ V_RES Specification (600dpi)	600dpi(V)	(not used)	(Legal)	(Letter)	A3	B4	A4	(not used)
(12) Original Length Specification	(not used)	No limits	(Legal)	(Letter)	(not used)	B4	A4	(not used)
(13) Speed Specification 0	(not used)	(not used)	(not used)	V.29-96	V.29-72	(not used)	V.27-48	V.27-24
(14) Speed Specification 1	V.17-144	V.17-120	V.17-96	V.17-72	(V.33-144)	(V.33-120)	(V.33-96)	(V.33-72)
(15) Speed Specification 2	V.34-192	V.34-168	V.34-144	V.34-120	V.34-96	V.34-72	V.34-48	V.34-24
(16) Speed Specification 3	(not used)	(not used)	V.34-336	V.34-312	V.34-288	V.34-264	V.34-240	V.34-216
(17) MSLT Specification	(not used)	(not used)	(not used)	(not used)	(not used)	MSLT of resolution shown as vertiacal RES		
(18) Communication Parameter Specification	ECM frame size 0:256 / 1:64	ECM	DIAG(CSRC)	(BFT)	(BTM)	PWD	SEP	SUB
(19) Remote Station Coding Specification	(not used)	(not used)	(JPEG)	JBIG	MMR	MR	MH	THRU
(20) Remote Station Communication Parameter (Capability)	ECM frame size 0:256 / 1:64	ECM	DIAG(CSRC)	(BFT)	(BTM)	PWD	SEP	SUB
(21) BOX No (4th & 3rd digit)	BOX No. 4th digit[BCD]				BOX No. 3rd digit[BCD]			
(22) BOX No. (2nd & 1st digits)	BOX No. 2nd digit[BCD]				BOX No. 1st digit[BCD]			

Supplement: (Not used) bit is set to 0.

5.3.Error Code (Network Fax)

When there occurs any trouble with this machine, the error screen is displayed. And on this error screen, the following error message is shown. Take a necessary step referring to the table given below.

5.3.1 Error code of the transmission system

Code	Classification	Details of the error	Redial	Corrective Action
N10	Connection error	Destination error	No	Check the condition of the other party machine. Check the network setting of local machine. Ask the network administrator if the network is operating normally.
N11	Connection error	Connection declined by the other party machine	No	Reception is declined. Check the condition of the other party machine.
N12	Connection error	Disconnection of the line	Yes	Check to see if there occurs any abnormal condition with the network, such as the disconnection of a cable.
N13	Connection error	No response received from the network	No	Check the condition of the other party machine. Check the network setting of local machine. Ask the network administrator if the network is operating normally.
N14	Protocol error	Mail delivery error	No	Check the condition of the other party machine. Send it again after waiting for a while.
N15	Protocol error	Connection reset by the other party machine	Yes	Check the condition of the other party machine. Send it again after waiting for a while.
N16	Protocol error	Local machine network busy	Yes	Check the condition of the other party machine. Send it again after waiting for a while.
N17	Protocol error	Communication time out	No	Check the condition of the other party machine. Send it again after waiting for a while.
N18	Other errors	Other errors	No	Check the each settings. Check to see if there occurs any abnormal condition with the network, such as the disconnection of a cable. After turning off and on the main power switch, send it again.
N20	Memory error	Memory overflow	No	The memory is full. Check to see if there is any other job being handled. With the number of transmission sheets reduced or the resolution for read reduced, send it again.
N21	HDD error	HDD error	No	HDD is full. Delete unnecessary files. With the number of transmission sheets reduced or the resolution for read reduced, send it again.

Code	Classification	Details of the error	Redial	Corrective Action
N22	Conversion error	Conversion error	No	After turning off and on the main power switch, send it again.
N25	Memory over-flow	Memory overflow	No	The memory is full. Check to see if there is any other job being handled. With the number of transmission sheets reduced or the resolution for read reduced, send it again.

5.3.2 Error code of the reception system

Code	Classification	Details of the error	Corrective Action
N50	SMTP reception	SMTP reception error	When the SMTP reception does not start in 60 minutes after connection for an incoming call, this error may be resulted. Ask the sender to send it again.
N51	Decode	In excess of the length specified for reception	Ask the sender to send it again after the length of the text being reduced.
N52	Decode	In excess of the number of pages specified for recep-tion	Ask the sender to send it again after the number of text sheets being reduced.
N53	Decode	File error	Ask the sender to send it again in a correct file format as shown below. Internet Fax: TIFF IP Address Fax: PDF or TIFF
N54	Decode	Decode error	The data has been received in an incorrect format. Ask the sender to send it again in a correct format.

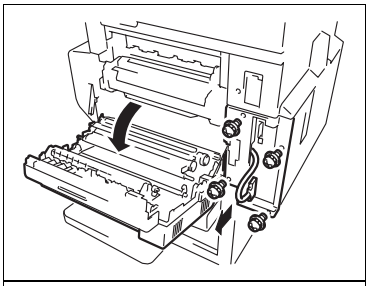
6 REPLACEMENT PROCEDURE

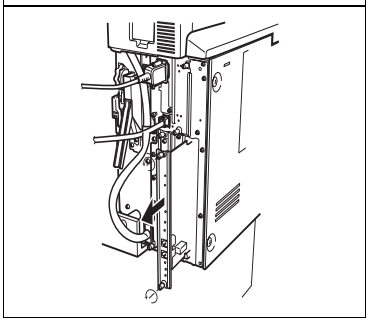
6.1.In case of bizhub C450/C351

6.1.1 Removal of the FK-502 (bizhub C450/C351)

In order to replace the FK-502, remove the FK-502 in the following order.

NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.





1. Turn off the main power switch and the power switch of the main body, and then unplug the power cord from the power outlet.
2. Remove the Telephone line cable that is connected.
3. Remove the connector provided on the right side of the main body.
4. Open the right door and remove the rear right cover. (4 screws)
5. Pull out the FK-502 board from the main body. (2 hinge screws)

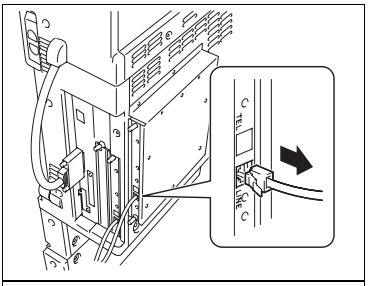
NOTE

- **When pulling out the FK-502 board, be sure to hold the 2 hinge screws provided at the upper and lower sections and pull them out to this side.**
- **When reinstalling the FK-502 board, be sure to insert it with the board set to the groove.**
- **Reinstall the above parts following the removal steps in reverse.**

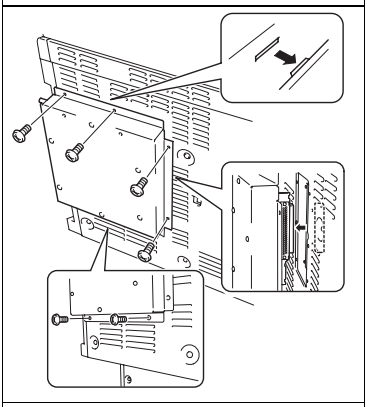
6.1.2 Removal of the FK-502 (Extension line) (bizhub C450/C351)

In order to replace the FK-502, remove the FK-502 (Extension line) in the following order.

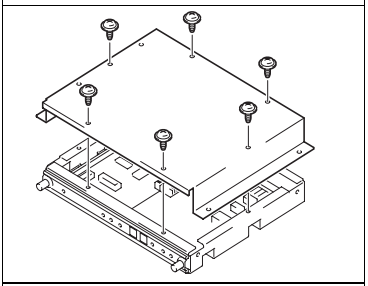
NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



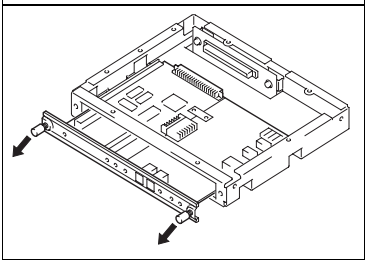
1. Turn off the main power switch and the power switch of the main body, and then unplug the power cord from the power outlet.
2. Remove the Telephone line cable that is connected.



3. Remove the Fax Multi Line kit. (6 screws, PCI board connector)



4. Remove the cover of Fax Multi Line kit. (6 screws)



5. Pull out the FK-502 board. (2 hinge screws)

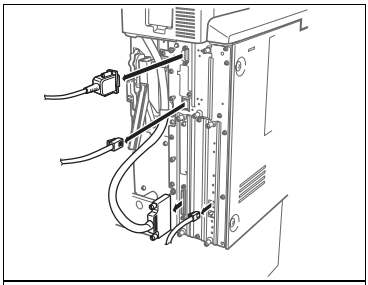
NOTE

- **When pulling out the FK-502 board, be sure to hold the 2 hinge screws provided at the upper and lower sections and pull them out to this side.**
- **When reinstalling the FK-502 board, be sure to insert it with the board set to the groove.**
- **Reinstall the above parts following the removal steps in reverse.**

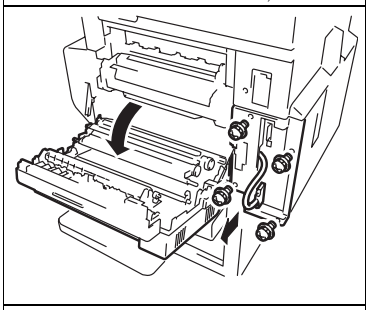
6.1.3 Removal of the memory (bizhub C450/C351)

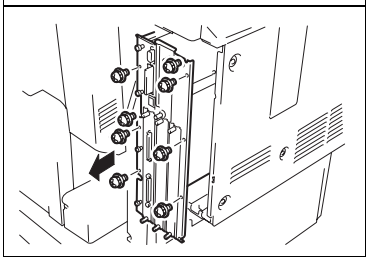
Replace the memory and the lithium battery in the following order.

NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



1. Turn off the main power switch and the power switch of the main body and then unplug the power cord from the power outlet.
2. Remove the cable that is connected.
3. Remove the connector provided on the right side of the main body.
4. Open the right door and remove the rear right cover. (4 screws)

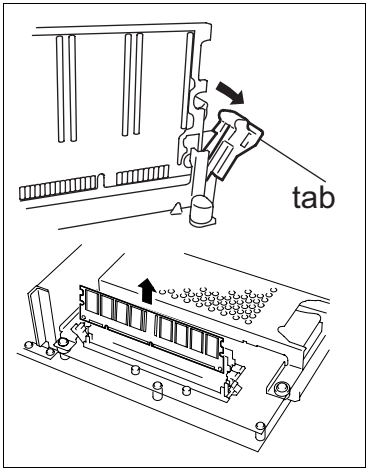




5. Pull out the control board assembly from the main body. (8 screws)

NOTE

- **When pulling out the control board assembly, be sure to hold the 2 hinge screws provided on the upper and lower sections and pull them out to this side.**
- **The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.**



6. Open the tab of the memory slot of the control board and remove the memory.

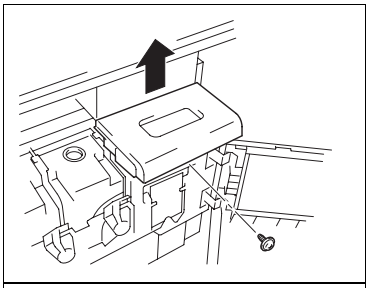
NOTE

- **When reinstalling the memory, take note of the direction in which the DIMM is inserted. And be sure to insert it securely until the tabs on both sides of the slot are set fully into the notches on the DIMM side.**
- **Reinstall the above parts following the removal steps in reverse.**

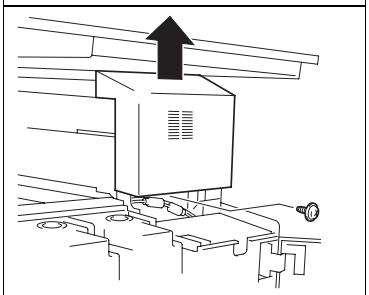
6.1.4 Removal of the speaker (bizhub C450/C351)

Replace the speaker in the following order.

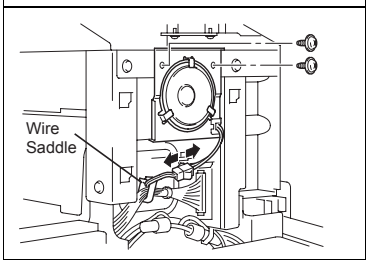
NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



1. Turn off the main power switch and the power switch of the main body and then unplug the power cord from the power outlet.
2. Open the front door of the main body and remove the panel cover. (1 screw)



3. Remove the cover. (1 screw)



4. Remove the connector, remove the fixing screw and then remove the speaker.

NOTE

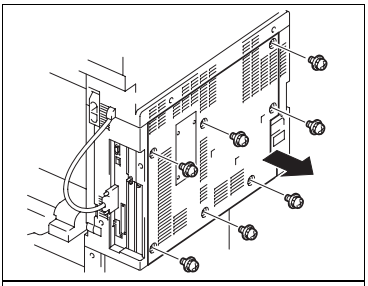
- **When reinstalling the speaker, be sure to check to see if the speaker harness on the main body side is seated securely in the wire saddle.**
- **Reinstall the above parts following the removal steps in reverse.**

6.2.In case of bizhub C352/C300/C252/C250

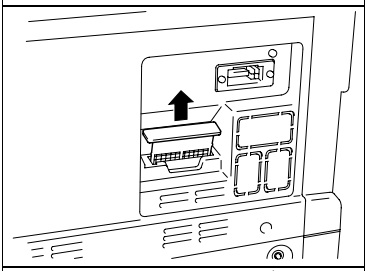
6.2.1 Removal of the FK-502 (bizhub C352/C300/C252/C250)

In order to replace the FK-502, remove the FK-502 in the following order.

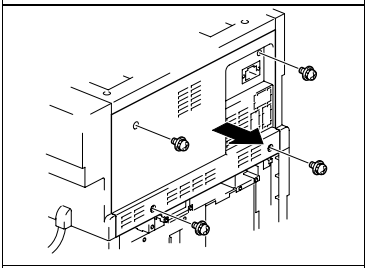
NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



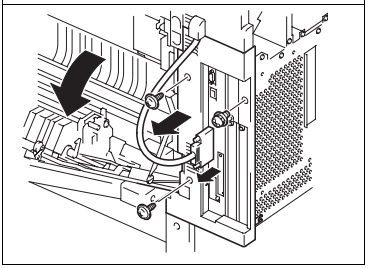
1. Turn off the main power switch and the power switch of the main body, and then unplug the power cord from the power outlet.
2. Remove the Telephone line cable that is connected.
3. Remove the lower rear cover. (7 screws)



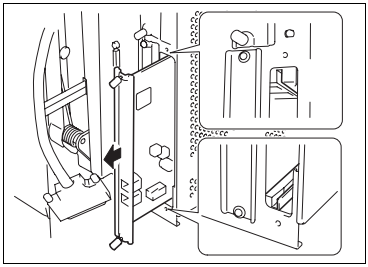
4. Pull out the dust proof filter provided on the rear side of the main body.



5. Remove the upper rear cover.(4 screws)



6. Remove the IR connector on the right side of the main body.
7. Open the right door and remove the right rear cover. (3 screws)



8. Pull out the FK-502 board from the main body. (2 hinge screws)

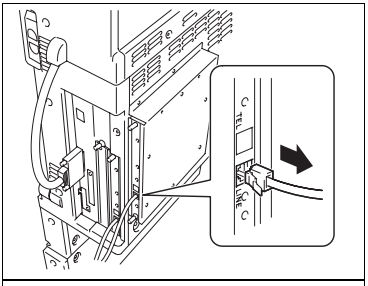
NOTE

- **When pulling out the FK-502 board, be sure to hold the 2 hinge screws provided at the upper and lower sections and pull them out to this side.**
- **When reinstalling the FK-502 board, be sure to insert it with the board set to the groove.**
- **Reinstall the above parts following the removal steps in reverse.**

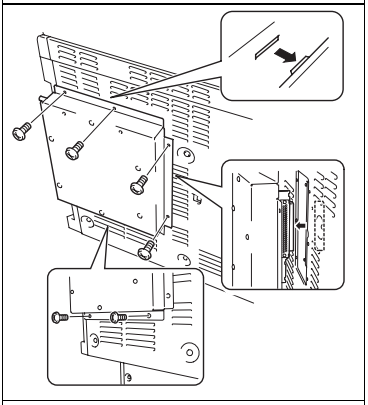
6.2.2 Removal of the FK-502 (Extension line) (bizhub C352/C300/C252/C250)

In order to replace the FK-502, remove the FK-502 (Extension line) in the following order.

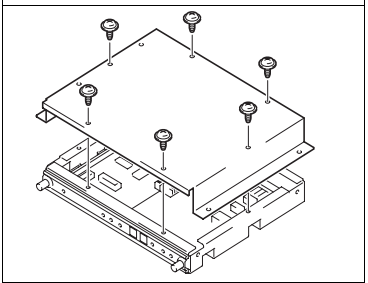
NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



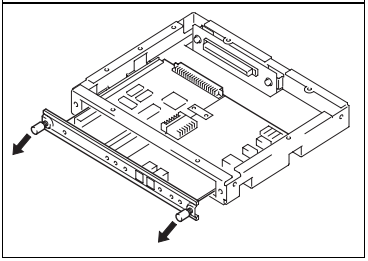
1. Turn off the main power switch and the power switch of the main body, and then unplug the power cord from the power outlet.
2. Remove the Telephone line cable that is connected.



3. Remove the Fax Multi Line kit. (6 screws, PCI board connector)



4. Remove the cover of Fax Multi Line kit. (6 screws)



5. Pull out the FK-502 board. (2 hinge screws)

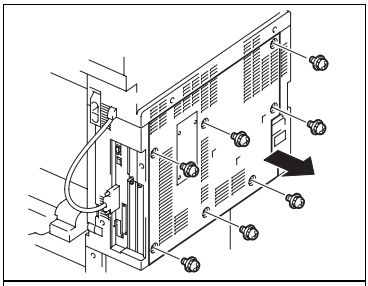
NOTE

- **When pulling out the FK-502 board, be sure to hold the 2 hinge screws provided at the upper and lower sections and pull them out to this side.**
- **When reinstalling the FK-502 board, be sure to insert it with the board set to the groove.**
- **Reinstall the above parts following the removal steps in reverse.**

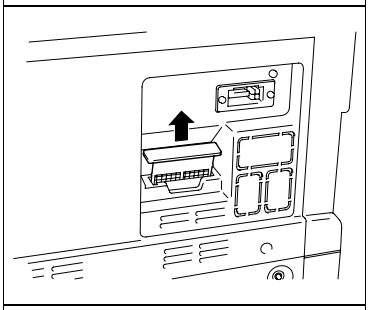
6.2.3 Removal of the memory (bizhub C352/C300/C252/C250)

Replace the memory and the lithium battery in the following order.

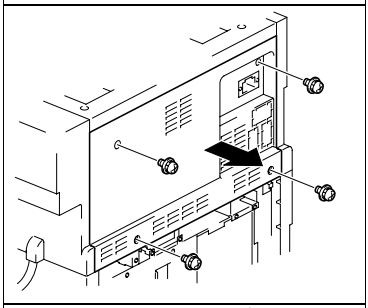
NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



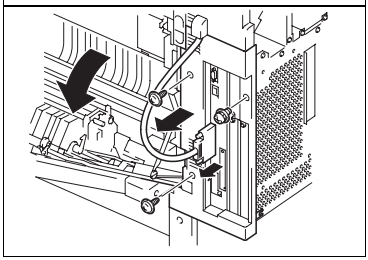
1. Turn off the main power switch and the power switch of the main body and then unplug the power cord from the power outlet.
2. Remove the cable that is connected.
3. Remove the lower rear cover. (7 screws)



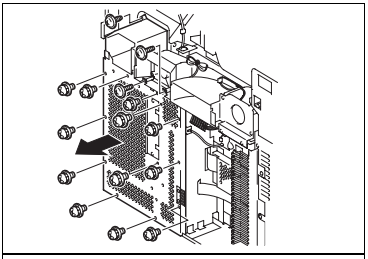
4. Pull out the dust proof filter provided on the rear side of the main body.



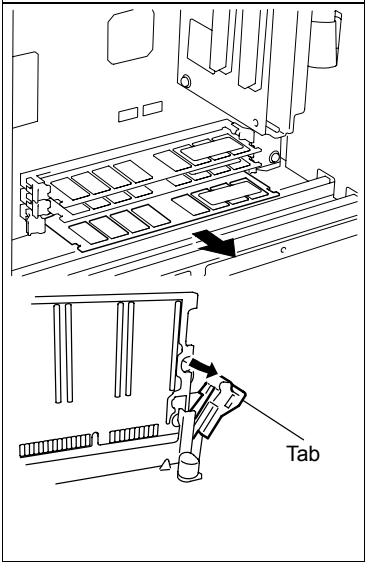
5. Remove the upper rear cover.(4 screws)



6. Remove the IR connector on the right side of the main body.
7. Open the right door and remove the rear right cover. (3 screws)



8. Remove the shield cover. (15 screws)



9. Open the tab of the memory slot of the MFP control board (PWB-MFPC) and remove the memory.

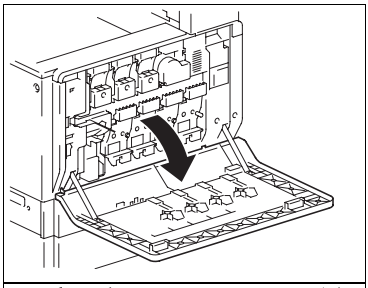
NOTE

- **When reinstalling the memory, take note of the direction in which the DIMM is inserted. And be sure to insert it securely until the tabs on both sides of the slot are set fully into the notches on the DIMM side.**
- **Reinstall the above parts following the removal steps in reverse.**

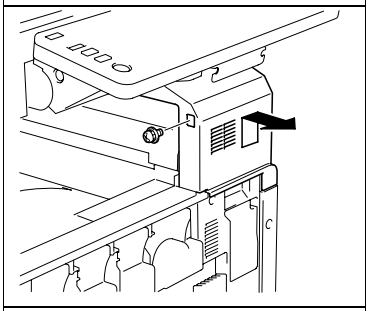
6.2.4 Removal of the speaker (bizhub C352/C300/C252/C250)

Replace the speaker in the following order.

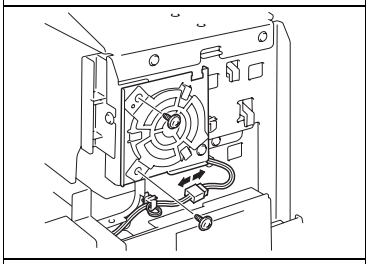
NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



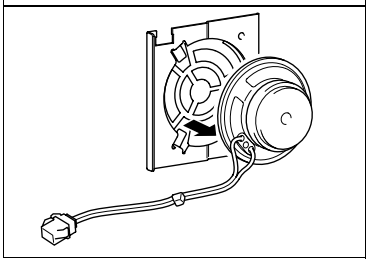
1. Turn off the main power switch and the power switch of the main body and then unplug the power cord from the power outlet.
2. Open the front door of the main body.



3. Remove the cover. (1 screw)



4. Remove the connector and then remove the bracket. (2 screws)



5. Remove the speaker on the rear side of the bracket.

NOTE

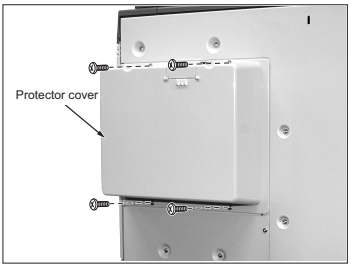
- **When reinstalling the speaker, be sure to check to see if the speaker harness on the main body side is seated securely in the wire saddle.**
- **Reinstall the above parts following the removal steps in reverse.**

6.3.In case of bizhub 750/600

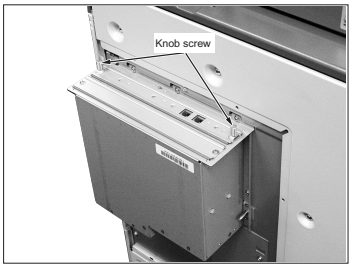
6.3.1 Removal of the FK-502 (bizhub 750/600)

In order to replace the FK-502, remove the FK-502 in the following order.

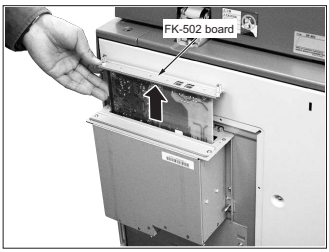
NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



1. Turn off the main power switch and the power switch of the main body, and then unplug the power cord from the power outlet.
2. Remove the Telephone line cable that is connected.
3. Remove the protector cover. (4 screws)



4. Loosen the 2 knob screws of the FK-502 board.



5. Remove the FK-502 board from the slot provided at the upper section of the board installation box.

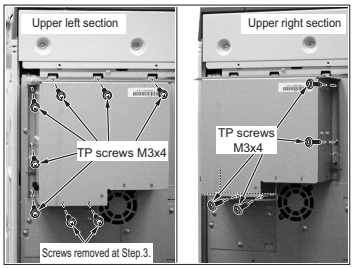
NOTE

- **When pulling out the FK-502 board, be sure to hold the 2 hinge screws provided at the upper and lower sections and pull them out to this side.**
- **When pulling out the FK-502 board, be sure to insert it with the board set to the groove.**
- **Reinstall the above parts following the removal steps in reverse.**

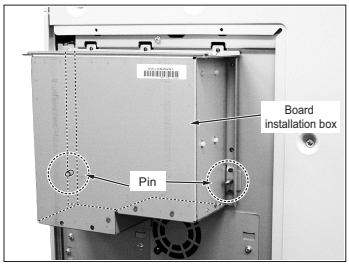
6.3.2 Removal of the Relay Board (bizhub 750/600)

Replace the Relay Board in the following order.

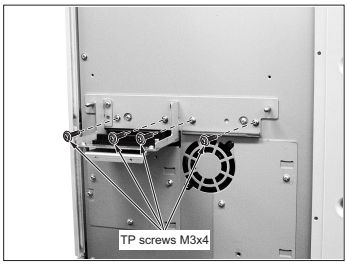
NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



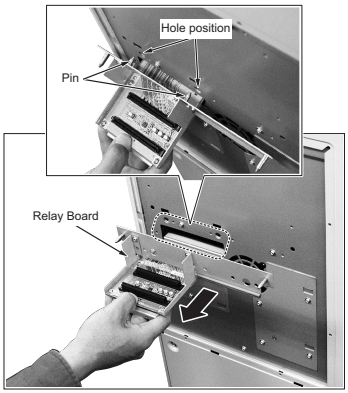
1. Turn off the main power switch and the power switch of the main body and then unplug the power cord from the power outlet.
2. Remove the Telephone line cable that is connected.
3. Remove the FK-502. (Refer to the "Removal of the FK-502 (bizhub 750/600)" on page 6-12)
4. Remove the screws of the board installation box. (TP screw M3 x 4:12 pcs)



5. Remove the board installation box horizontally against the pin.



6. Remove the screws of the Relay board. (4 TP screws M3 x 4)



7. Remove the Relay board.

NOTE

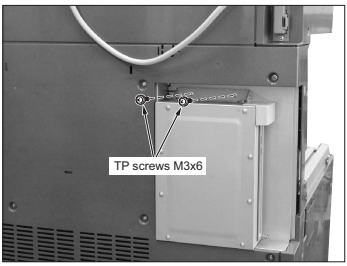
- **Reinstall the above parts following the removal steps in reverse.**

6.4.In case of bizhub 500/420

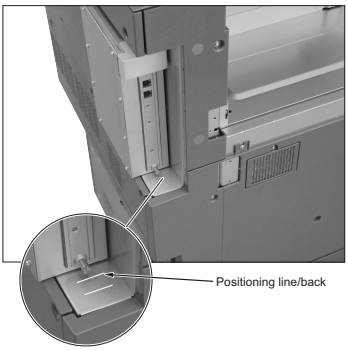
6.4.1 Removal of the FK-502 (bizhub 500/420)

In order to replace the FK-502, remove the FK-502 in the following order.

NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.

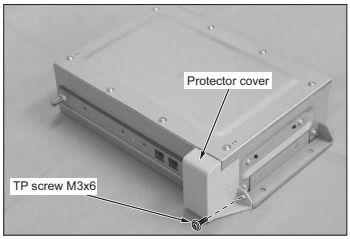


1. Turn off the main power switch and the power switch of the main body, and then unplug the power cord from the power outlet.
2. Remove the Telephone line cable that is connected.
3. Remove the 2 screws (TP screw M3 x 6) that fasten the board installation box provided on the rear side of the main body.

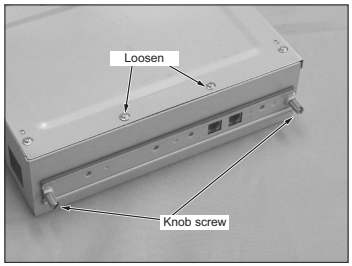


4. Remove the board installation box from the main body.

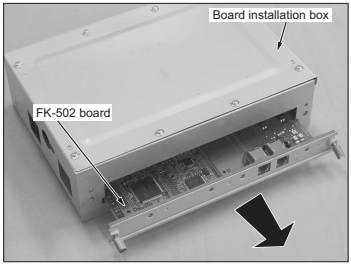
   NOTE
   - **Be sure to slide it in the right direction to remove it.**
   - **At this time, be sure to remove the connector on the left side of the board installation box and that on the main body side completely.**



5. Remove the protector cover from the board installation box. (TP screw M3 x 6:1pc)



6. Loosen the 2 screws provided at the upper section of the board installation box and then also loosen the knob screw.



7. Remove the FK-502 board from the Board installation box.

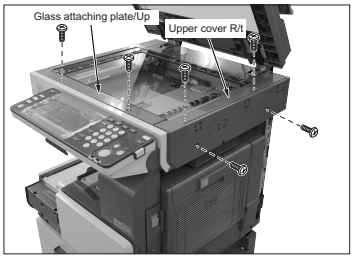
NOTE

- **When pulling out the FK-502 board, be sure to hold the 2 knob screws provided at the upper and lower sections and pull them out to this side.**
- **When pulling out the FK-502 board, be sure to insert it with the board set to the groove.**
- **Reinstall the above parts following the removal steps in reverse.**

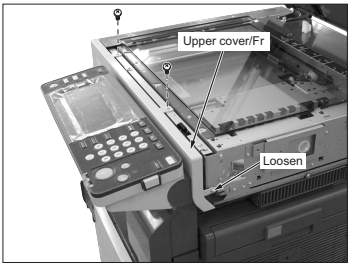
6.4.2 Removal of the speaker (bizhub 500/420)

Replace the speaker in the following order.

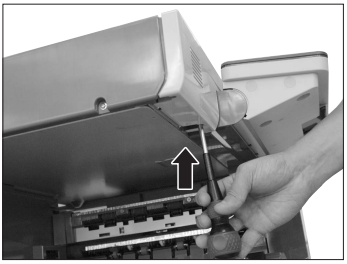
NOTE Be sure to check to see if the main power switch is turned off.
The board may be damaged due to static electricity. Be sure to take an appropriate measure against static electricity before conducting the operations.



1. Turn off the main power switch and the power switch of the main body and then unplug the power cord from the power outlet.
2. Remove the upper cover/Rt. (2 screws)
3. Remove the glass attaching plate/Up.(2 screw)



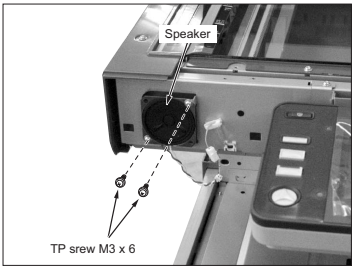
4. Loosen the 1 screw, and then remove the 2 screws to remove the upper cover/Fr.



NOTE

- **When removing the upper cover/Fr, be sure to remove it while pushing the catch with a minus(-) driver from the underside.**

5. Remove the connector of the speaker.



6. Remove the speaker.

NOTE

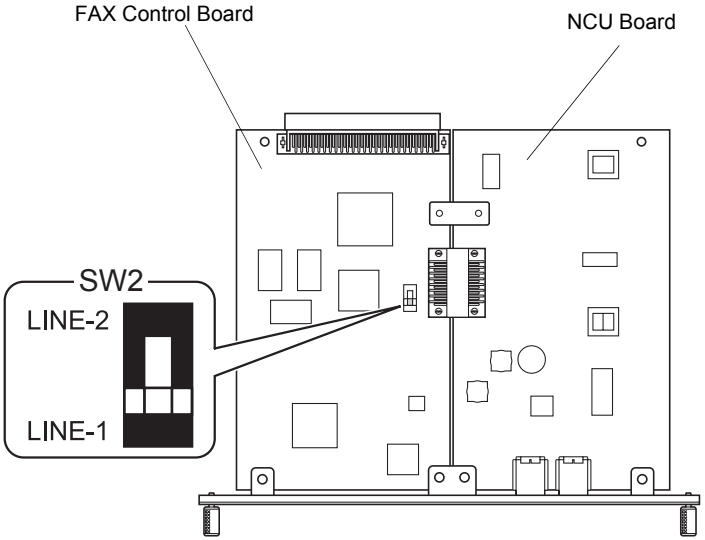
- **Reinstall the above parts following the removal steps in reverse.**

6.5.Configuration of the FK-502 board

The following shows the configuration of the FK-502.

NOTE

- **When using it as a main line, set SW2 to [LINE-1].**
- **When using it as a sub line, set SW2 to [LINE-2].**



7 COMMUNICATION CONTROL

7.1.PROTOCOL

7.1.1 FIF bits of DIS, DTC and DCS

FIF Data Configuration List (DIS/DTC)

octet	bit	Function	Contents	Default
4	1	T.37 Internet Fax (Simple mode)		0
	2	Reserved		0
	3	T.38 Real time Internet Fax		0
	4	Third generation mobile network		0
	5	Reserved		0
	6	V.8 ability		0
	7	ECM frame	0: 256 octet 1: 64 octet	0
	8	Reserved		0
5	9	Ready for Polled transmission	1: polled transmission documents exist 0: no polled transmission documents	@
	10	Receiver ability	1: Reception is possible. 0: Reception is impossible.	@
	11	Transmission speed ability	Refer to *1.	1
	12			1
	13			0
	14			1
	15	R8*7.71/mm and / or 200*200 pels/25.4mm		1
	16	Two-dimensional coding ability	1: MR 0: MH	1
6	17	Recording paper width ability	bit 0,0=A4 0,1=A3	0
	18		(17,18) 1,0=B4 1,1=Invalid	1
	19	Recording paper length ability	bit 0,0=A4 0,1=Unlimited	0
	20		(19,20) 1,0=B4 1,1=Invalid	1
	21	Minimum scan line time ability	Refer to *2.	1
	22			0
	23			0
	24	Expansion field		1

octet	bit	Function	Contents	Default
7	25	Reserved		0
	26	Non-compression mode		0
	27	Error correction mode (ECM) ability	1: with ECM 0: without ECM	1
	28		0: fixed	0
	29	Reserved		0
	30	Reserved		0
	31	T.6 coding (MMR) ability	1: with MMR 0: without MMR	1
	32	Expansion field		1
8	33	Field Not valid		0
	34	Multi-selective polling	1: Ability 0: No ability	0
	35	Polled sub-address		0
	36	T.43 Coding ability		0
	37	Plain Interleave		0
	38	32K ADPCM Voice coding		0
	39	Reserved		0
	40	Expansion field		1
9	41	R8*15.41/mm		1
	42	300*300pels/25.4mm		0
	43	R16*15.41/mm and / or 400*400pels/25.4mm		1
	44	inch ability		1
	45	mm ability		1
	46	Minimum scan line time ability of high resolution	0: T15.4=T7.7 1: T15.4=1/2T7.7	0
	47	Selective polling		1
	48	Expansion field		1
10	49	Sub address ability		1
	50	Password		1
	51	Ready for data file transmission (polling)		0
	52	Reserved		0
	53	BFT transfer ability		0
	54	DTM transfer ability		0
	55	EDI transfer ability		0
	56	Expansion field		0

octet	bit	Function	Contents	Default
11	57	BTM transfer ability		0
	58	Reserved		0
	59	Character or mixed mode documents ready for Tx (polling)		0
	60	Character mode ability		0
	61	Reserved		0
	62	Mixed mode ability		0
	63	Reserved		0
	64	Expansion field		0
12	65	Processible mode (T.505)		0
	66	Digital network ability		0
	67	Full-duplex communication ability	0: Half-duplex 1: Full-duplex	0
	68	JPEG coding ability		0
	69	Full color mode		0
	70		0: Fixed	0
	71	12 bits / pixel component		0
	72	Expansion field		1
13	73	No sub sampling (1:1:1)		0
	74	Custom illuminance		0
	75	Custom gamut range		0
	76	North America Letter (215.9*279.4) ability		0
	77	North America Legal (215.9*355.6) ability		0
	78	Single progression sequential coding (T.85) basic ability		1
	79	Single progression sequential coding (T.85) optional LO ability		@
	80	Expansion field		0
14	81	HKM key management capability		0
	82	RSA key management capability		0
	83	Override capability		0
	84	HFX40 cipher capability		0
	85	Alternative cipher number 2 capability		0
	86	Alternative cipher number 3 capability		0
	87	HFX40-I hashing capability		0
	88	Expansion field		0

octet	bit	Function	Contents	Default
15	89	Alternative hashing system number 2 capability		0
	90	Alternative hashing system number 3 capability		0
	91	Reserved		0
	92	T.44 (Mixed Raster Content)		0
	93	T.44 (Mixed Raster Content)		0
	94	T.44 (Mixed Raster Content)		0
	95	Page length maximum strip size for T.44 (Mixed Raster Content)		0
	96	Expansion field		0
16	97	Color/gray-scale 300 pels/25.4mm x 300 lines/25.4mm or 400 pels/25.4mm x 400 lines/25.4mm resolution		0
	98	100 pels/25.4mm x 100 lines/ 25.4mm for color/gray scale		0
	99	Simple Phase C BFT Negotiations capability		0
	100	Extended BFT Negotiations capability		0
	101	Internet Selective Polling Address(ISP)		0
	102	Internet Routing Address(IRA)		0
	103	Reserved		0
	104	Expansion field		0
17	105	600 pels/25.4mm x 600 lines/ 25.4mm		0
	106	1200 pels/25.4mm x 1200 lines/ 25.4mm		0
	107	300 pels/25.4mm x 600 lines/ 25.4mm		0
	108	400 pels/25.4mm x 800 lines/ 25.4mm		0
	109	600 pels/25.4mm x 1200 lines/ 25.4mm		0
	110	Color/gray-scale 600 pels/25.4mm x 600/25.4mm resolution		0
	111	Color/gray-scale 1200 pels/25.4mm x 1200/ 25.4mm resolution		0
	112	Expansion field		0

octet	bit	Function	Contents	Default
18	113	Double sided printing capability (alternate mode)		0
	114	Double sided printing capability (continuous mode)		0
	115	Black and white mixed raster content profile (MRCbw)		0
	116	T.45 (run length color encoding)		0
	117	SharedDateMemory capacity	bit(117,118) 0,0=Disable 0,1= Level 1=1.0Mbytes 1,0= Level 2=2.0Mbytes 1,1= Level 3=unlimited (i.e. 32Mbytes or more)	0
	118			
	119	Reserved		0
	120	Expansion field		0
19	121	Flow Control Capability for T.38 communication		0
	122	K > 4		0
	123	Internet aware T.38 mode fax device		0
	124	T.89 (Application profiles for ITU-T T.88)	*3 Reference	0
	125			
	126			
	127	sYCC-JPEG coding		0

@) Changes to 0 or 1 according to a status of devices.

*1) Transmission speed ability (bit 11, 12, 13 and 14)

11	12	13	14	Contents	Transmission speed
0	0	0	0	V27 ter fall back mode	24
0	1	0	0	V27 ter	48, 24
1	0	0	0	V29	96, 72
1	1	0	0	V27 ter & V29	96, 72, 48, 24
1	1	0	1	V27 ter & V29 & V17	144, 120, 96, 72, 48, 24

*2) Minimum scan line time ability (bit 21, 22 and 23)

21	22	23	Contents	
0	0	0	3.851/mm --- 20ms	7.71/mm --- 20ms
0	0	1	3.851/mm --- 40ms	7.71/mm --- 40ms
0	1	0	3.851/mm --- 10ms	7.71/mm --- 10ms

21	22	23	Contents	
0	1	1	3.851/mm --- 10ms	7.71/mm --- 5ms
1	0	0	3.851/mm --- 5ms	7.71/mm --- 5ms
1	0	1	3.851/mm --- 40ms	7.71/mm --- 20ms
1	1	0	3.851/mm --- 20ms	7.71/mm --- 10ms
1	1	1	3.851/mm --- 0ms	7.71/mm --- 0ms

*3) T.89 (Application profile for ITU-T T.88)

124	125	126	Contents
0	0	0	not used
0	0	1	Profile 1
0	1	0	Profile 2
0	1	1	Profile 3
1	0	0	Profile 2 and 3
1	0	1	Reserved
1	1	0	Reserved
1	1	1	Reserved

FIF data configuration list (DCS)

octet	bit	Function	Contents	Default
4	1	T.37 Internet Fax (Simple mode)		0
	2	Reserved		0
	3	T.38 Real time Internet Fax		0
	4	Third generation mobile network		0
	5	Reserved		0
	6	Invalid		0
	7	Invalid		0
	8	Reserved		0
5	9		0: fixed	0
	10	Reception command		1
	11	Transmission speed instruction	Refer to *4.	@
	12			@
	13			@
	14			@
	15	R8*7.71/mm or 200*200pels/25.4mm	1: 7.71/mm 0: 3.851/mm	@
	16	Two-dimensional coding instruction	1: MR 0: MH	@
6	17	Recording paper width instruction	bit 0,0=A4 0,1=A3	@
	18		(17,18) 1,0=B4 1,1=Invalid	@
	19	Recording paper length instruction	bit 0,0=A4 Unlimited	@
	20		(19,20) 1,0=B4 1,1=Invalid	@
	21	Minimum scan line time instruction	Refer to *5.	@
	22			@
	23			@
	24	Expansion field		@

octet	bit	Function	Contents	Default
7	25	Reserved		0
	26	Non-compression mode		0
	27	Error correction mode (ECM) instruction	1: with ECM 0: without ECM	@
	28	Frame size instruction	0: 256 octet 1: 64 octet	@
	29	Reserved		0
	30	Reserved		0
	31	T.6 coding (MMR) instruction	1: with MMR 0: without MMR	@
	32	Expansion field		@
8	33	Field Not valid		0
	34		0: fixed	0
	35		0: fixed	0
	36	T.43 Coding		0
	37	Plain Interleave		0
	38	32K ADPCM Voice coding		0
	39	Reserved		0
	40	Expansion field		@
9	41	R8*15.41/mm		@
	42	300*300pels/25.4mm		@
	43	R16*15.41/mm or 400*400pels/25.4mm		@
	44	inch/mm instruction	0: inch setting 1: mm setting	@
	45	Arbitrary		0
	46	Arbitrary		0
	47		0: fixed	0
	48	Expansion field		@

octet	bit	Function	Contents	Default
10	49	Sub address transmission		1
	50	Password (SID) transmission		1
	51		0: fixed	0
	52	Reserved		0
	53	BFT transfer		@
	54	DTM transfer		0
	55	EDI transfer		0
	56	Expansion field		@
11	57	BTM transfer		0
	58	Reserved		0
	59		0: fixed	0
	60	Character mode		0
	61	Reserved		0
	62	Mixed mode		0
	63	Reserved		0
	64	Expansion field		@
12	65	Processible mode (T.505)		0
	66	Digital network ability		0
	67	Full-duplex communication instruction	0: Half-duplex 1: Full-duplex	0
	68	JPEG coding		0
	69	Full color mode		0
	70	Default Huffman table use		0
	71	12 bits / pixel component		0
	72	Expansion field		@
13	73	No sub sampling (1:1:1)		0
	74	Custom illuminance		0
	75	Custom gamut range		0
	76	North America Letter (215.9*279.4)		0
	77	North America Legal (215.9*355.6)		0
	78	Single progression sequential coding (T.85) basic		@
	79	Single progression sequential coding (T.85) optional LO		@
	80	Expansion field		@

octet	bit	Function	Contents	Default
14	81	HKM key management selected		0
	82	RSA key management selected		0
	83	Override mode selected		0
	84	HFX40 cipher selected		0
	85	Alternative cipher number 2 selected		0
	86	Alternative cipher number 3 selected		0
	87	HFX40-I hashing selected		0
	88	Expansion field		@
15	89	Alternative hashing system number 2 selected		0
	90	Alternative hashing system number 3 selected		0
	91	Reserved		0
	92	T.44 (Mixed Raster Content)		0
	93	T.44 (Mixed Raster Content)		0
	94	T.44 (Mixed Raster Content)		0
	95	Page length maximum strip size for T.44 (Mixed Raster Content)		
	96	Expansion field		@
16	97	Color/gray-scale 300 pels/25.4mm x 300 lines/25.4mm or 400 pels/25.4mm x 400 lines/25.4mm resolution		0
	98	100 pels/25.4mm x 100 lines/ 25.4mm for color/gray scale		0
	99	Simple Phase C BFT Negotiations capability		0
	100		0: Fixed	0
	101		0: Fixed	0
	102	Internet Routing Address(IRA) Transmission		0
	103	Reserved		0
	104	Expansion field		@

octet	bit	Function	Contents	Default
17	105	600 pels/25.4mm x 600 lines/ 25.4mm		@
	106	1200 ples/25.4mm x 1200 lines/ 25.4mm		0
	107	300 pels/25.4mm x 600 lines/ 25.4mm		0
	108	400 pels/25.4mm x 800 lines/ 25.4mm		0
	109	600 pels/25.4mm x 1200 lines/ 25.4mm		0
	110	Color/gray-scale 600 pels/25.4mm x 600/25.4mm resolution		0
	111	Color/gray-scale 1200 pels/25.4mm x 1200/25.4mm resolution		0
	112	Expansion field		0
18	113	Double sided printing selected (alternate mode)		0
	114	Double sided printing selected (continuous mode)		0
	115		0: Fixed	0
	116	T.45 (run length color encoding)		0
	117	SharedDateMemory required	bit(117,118) 0,0=not used 0,1= Level 1=1.0Mbytes 1,0= Level 2=2.0Mbytes 1,1= Level 3=unlimited (i.e. 32Mbytes or more)	0
	118			
	119	Reserved		0
	120	Expansion field		0
19	121	Flow Control Capability for T.38 communication		0
	122	K > 4		0
	123	Internet aware fax device operating in T.38 mode		0
	124	T.89 (Application profiles for ITU-T T.88)	*6 Reference	0
	125			
	126			
	127	sYCC-JPEG coding		0

@) Changes to 0 or 1 according to a status of devices.

*4) Transmission speed appointment (bit 11, 12, 13 and 14)

11	12	13	14	Contents
0	0	0	0	24/V27 ter
0	1	0	0	48/V27 ter
1	0	0	0	96/V29
1	1	0	0	72/V29
0	0	0	1	144/V17
0	1	0	1	120/V17
1	0	0	1	96/V17
1	1	0	1	72/V17

*5) Minimum scan line time instruction (bit 21, 22 and 23)

21	22	23	Contents
0	0	0	20 ms
0	0	1	40 ms
0	1	0	10 ms
1	0	0	5 ms
1	1	1	0 ms

*6) T.89 (Application profile for ITU-T T.88)

124	125	126	Contents
0	0	0	not used
0	0	1	Profile 1
0	1	0	Profile 2
0	1	1	Profile 3
1	0	0	Invalid
1	0	1	Reserved
1	1	0	Reserved
1	1	1	Reserved

Important

1. Considered to be A4 width when the DIS recording paper width is invalid (1, 1)
   Becomes a FIF error when the DCS recording paper width is invalid (1, 1).
2. Considered to be unlimited when the DIS recording paper length is invalid (1, 1).
   Considered to be unlimited when the DCS recording paper length is invalid (1, 1).
   The DCS recording paper length in a machine is made to be of the same length as that in a remote station and is sent.
3. Considered to be 2400bps when the DIS transmission speed is an undefined value.
   Becomes a FIF error when the DCS transmission speed is an undefined value.
4. Considered to be 40ms instruction when the MSLT of DCS is an undefined value.
5. Considered to have mm ability when DIS inch ability and mm ability are both set to OFF.
   Considered to be 200*100pels/inch when the DCS resolution receives the inch instruction at 3.851/mm.
   Becomes a FIF error when more than one of bit41, 42 and 43 are set to on in the resolution of DCS.
6. Becomes a FIF error when DCS receives the MMR instruction without ECM.
7. Becomes a FIF error when DCS receives the file transfer (BFT) instruction without ECM.
8. Becomes a FIF error when DCS shows an instruction which exceeds the ability of the machine.
9. FIF of DIS/DTC is not sent if last octet is 0.
   DCS sends FIF whose length is the same as that of the machine.
10. When undefined signals are received, they are received and ignored in consideration of the future expansion.(not a error)

7.1.2 Modem Fallback Sequence

Fallback sequences of TCF and CTC are shown as follows:

1. V17, V29, and V27 ter

Ability of a Remote Station	TCF Fallback Sequence
V27 ter/V29	96/V.29 → 72/V.29 → 48/V.27 ter → 24/V27 ter
V27 ter/V29/V33 V17	144/V.17 → 120/V.17 → 96/V.17 → 72/V.17 → 48/V.27 ter → 24/V27 ter

On the transmission side ..... If PPR is received four times, a modem is set in the fallback state.

On the reception side ..... In case of sending PPR, when the number of error frames exceeds the FP value, a modem is set in the fallback state.

2. V34
   Line quality is always water by modem.
   Optimum speed is automatically selected on-the-fly.

7.1.3 V8/V34 Sequence

(1) V34

Outline

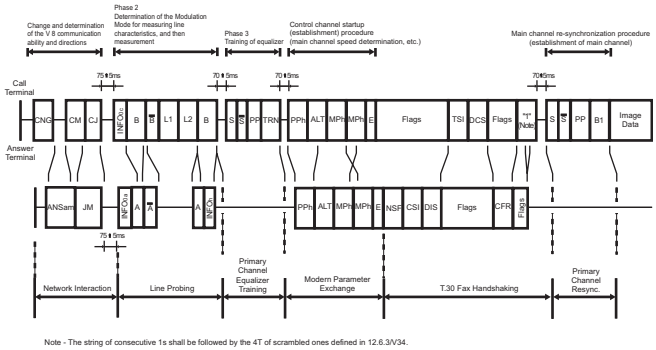
- The 33.6kbps data transmission method and protocol including the V8 protocol. As for each of full-duplex and half-duplex, startup handshake until data transmission starts is divided into four phases, Phase1 to 4, and signals used in each Phase are regulated.

Features

- Full-duplex (echo canceler method) / Half-duplex method are regulated (for data / FAX respectively)
- 2400, 3000 and 3200 symbols / sec (mandatory) and 2743, 2800 and 3429 symbols / sec (option) QAM synchronous transmission at each symbol rate
- Communication at each signal rate of 33600, 31200, 28800, 26400, 24000, 21600, 19200, 16800, 14400, 12000, 9600, 7200, 4800 and 2400bps
- Four-dimensional-symbol trellis coding
- A 200bps sub channel which can be used as an asynchronous second channel (option)
- Negotiation in which characteristics of a line is measured before transmission starts and the maximum communication speed is achieved by finely adjusting the transmission parameter, based on the result of measurement (carrier / frequency / equalizer / symbol rate / level, etc.)
- Data transmission in the super frame with the hierarchical structure

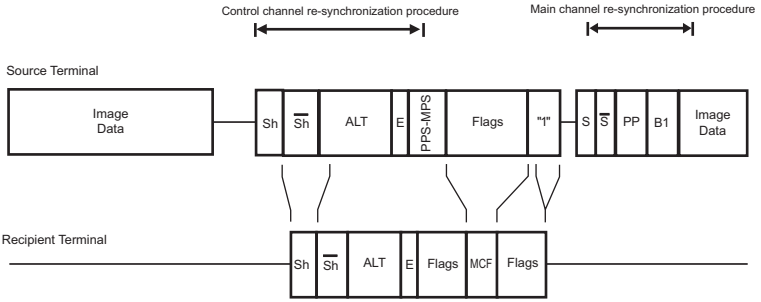
(2) sample of a signal procedure at sending two pages

(2-1) Beginning of communications to beginning of 1st page transmission



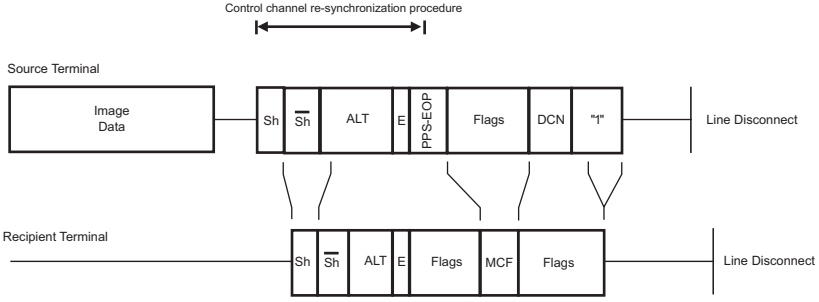
Note - The string of consecutive 1s shall be followed by the 4T of scrambled ones defined in 12.6.3/V34.

(2-2) Signals between pages



7 COMMUNICATION CONTROL

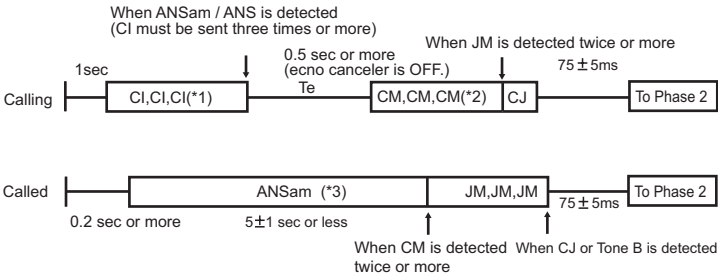
(2-3) 2nd page transmission termination to communication termination



Note - Some terminals may disconnect the line immediately after sending DCN without sending consecutive 1s.

(3) Procedure details

(3-1) Phase 1 (V8) ....Beginning of connection between a calling modem and a called modem

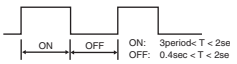


(*1) One of no signals / C1 / CNG (T.30) / CT (V.25)

(*2) V.34 full-duplex ability in the Modulation Mode bit is ON.

(*3) ANSam of phase inversion is sent. Phase inversion is an option in case of supporting only half-duplex. When CM or valid signal from the calling side is not detected, the procedure is moved to T.30, etc. after 75 ± 5ms interval.

A. Signal Definition

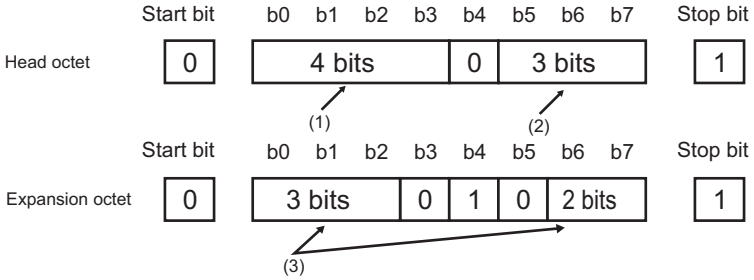
Signal Type	Meaning	Signal Direction Call Called	Signal Speed	Timing of Transmission
CI (Call Indicator)	Function display on the calling side	→	V21(L) (300bps)	Start: after 0.4 seconds after line connection from ON condition (in the following format) Stop: when 3 Period or more has passed after ANSam / ANS is detected 
	[Comments] • CI is a signal to carry Call Function. • The calling side send CI, CT (Call Tone - V25) or CNG. • CI transmission and detection are optional. • The ON minimum time (=3 Period) is of duration of three CI signals in the following format.			
ANSam (Modified Answer Tone)	V.8 procedure on the called side	←	—	When 0.2 seconds or more has passed after reception
	[Comments] • Essential for a called machine which supports the V8 procedure. • 2100Hz sinewave is phase-inverted by 400 +/-25ms periods, then amplitude modulated by 15 +/-0.1Hz sinewave • Average value of modulation factor (x) 0.8 +/- .01 < x < 1.2 +/- .01 • Average transmission power compliant to V2 • 2100 +/- 200Hz external power is smaller than the average power by 24dB or more.			
CM (Call Menu)	Modulation mode etc. on the calling side	→ (300bps)	V.21(L)	Start: Te (0.5 sec. ≤ Te ≤ 1 sec.) has passed after CI transmission stops Stop: When two or more JM are detected
	[Comments] • CM is a signal which carries Call Function, Modulation Modes, Protocols and GSTN access. • The first information category is Call Function. • Protocols and GSTN access category are added when the calling side has ability and when needed to inform to a remote station.			
CJ	CM termination	→ (300bps)	V.21(L)	When CM is completed
	[Comments] • START bit (0) and STOP bit (1) are added to 1 octet of all bit 0. • Signal format START bit b0 b1 b2 b3 b4 b5 b6 b7 STOP bit. 0 0 0 0 0 0 0 0 0 1			

Signal Type	Meaning	Signal Direction Call Called	Signal Speed	Timing of Transmission
JM (Joint Menu)	Display of common ability on both calling and called sides	← (300bps)	V.21(H)	Start: When two or more same CM are received Stop: When CJ is received or receives a signal matching the selected Modulation Mode from the calling side
	[Comments] • JM is a response signal to CM and of the same format as the received CM. • The fist information category is Call Function as same as CM. • Modulation Mode sets the common bit on calling and called sides and sends by the same octet as received CM. When there is no common ability, all bits are set to 0 and send by the same octet as received CM. • The minimum item No. is selected from the common bits to determine the actual Modulation Mode. • Protocol is added when it is included in received CM and needed to instruct. • GSTN access is added when it is included in received CM and needed to instruct. • Bit 6 is set to ON when needed to show ability. Bit 5 is set to the same one as received CM			

B. Signal format

1. Preamble: a signal added before each signal when CI, CM and JM signals are sent.
   Format: 1111111111 +0000000001 (for CI)
   +0000001111 (for CM and JM)
2. Common format among each signal CI, CM and JM

Start Bit (=0) is put at the top and Stop Bit (=1) is put at the end of each octet.



(1) :Category tag (tags which represent information types)

Bit assignment					Meaning (information type)	Included signal
b0	b1	b2	b3			
1	0	0	0	...	Call Func	Top of CM, JM / CI
1	0	1	0	...	Modulation Mode	CM / M
0	1	0	1	...	Protocols	CM / M
1	0	1	1	...	GSTN access	CM / M
0	1	1	0	...	PCM modem ability	CM / JM

(2) :Option bit (Differs depending on category tags. See the next item, bit definition.)
(3) :Additional option bit (Differs depending on category tags. See the next item, bit definition.)

Common signal bit definition

2-1. Call Function (1 octet)

Top octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning
1	0	0	0	0				(Call Function category tag)
					0	0	0	Defined by ITU-T
					1	0	0	PSTN multi-media terminal
					0	1	0	V18 text phone
					1	1	0	Video tex
					0	0	1	FAX transmission from the calling terminal
					1	0	1	FAX reception in the calling terminal
					0	1	1	Data transmission / reception
					1	1	1	Expansion octet = with Call Function represented by next octet

(Other than the above = Reserved)

2-2. Modulation Mode (3 octets)

1st octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
1	0	1	0	0				(Modulation Mode category tag, b4 = 0 is first octet)	
					0/1			PCM modem ability disabled/enabled	
						0/1		V34 full-duplex ability disabled/enabled	1
							0/1	V34 half-duplex ability disabled/enabled	2

2st octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
			0	1	0			(b3, 4 and 5=0, 1, 0 means expanded oct.)	
0/1								V32bis / V32 ability disabled / enabled	3
	0/1							V22bis / V22 ability disabled / enabled	4
		0/1						V17 ability disabled / enabled	5
						0/1		V29 half-duplex ability disabled / enabled (used in T.30)	6
							0/1	V27ter ability disabled / enabled	7

3st octet

b0	b1	b2	b3	b4	b5	b6	b7	Meaning	Item No.
			0	1	0			(b3, 4 and 5=0, 1, 0 means expanded oct.)	
0/1								V26ter ability disabled / enabled	8
	0/1							V26bis ability disabled / enabled	9
		0/1						V23 full-duplex ability disabled / enabled	10
						0/1		V23 half-duplex ability disabled / enabled	11
							0/1	V21 ability disabled / enabled	12

2-3. Protocol (1 octet)

Protocols (1 octet)

b0	b1	b2	b3	b4	b5	b6	b7	Meaning
0	1	0	1	0				(Protocols category tag)
					1	0	0	V42 LAPM protocol
					1	1	1	Protocol represented by expanding octet

2-4. GSTN access (1 octet)

GSTN access (1 octet)

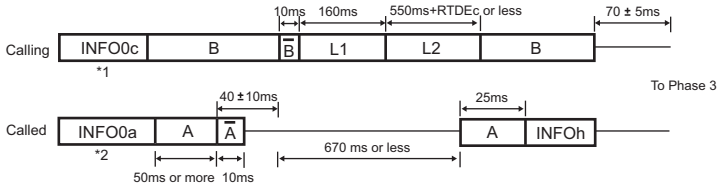
b0	b1	b2	b3	b4	b5	b6	b7	Meaning
1	0	1	1	0				(GSTN access category tag)
					0/1			Celluler connection in the calling side
						0/1		Celluler connection in the called side
							0/1	0: Analog network connection 1: Digital network connection

2-5. PCM modem capability (1 octet)

b0	b1	b2	b3	b4	b5	b6	b7	Meaning
1	1	1	0	0				(PCM modem category tag)
					0/1			V.90 analog modem capability
						0/1		V.90 digital modem capability
							0/1	V.91 capability

(3-2) Phase 2 (Probing) ..... V.34 basic setting

- Exchange of modulation ability
- Measurement of line characteristics (bi-direction)
- Determination and exchange of compensation values to line characteristics (compensation values of maximum data rate, transmission level, pre-emphasis (*))
  * linear equalizer for compensating amplitude distortion



A : 2400Hz tone signal output from the called side (Level is a set value -1dB). 1800Hz guard tone (Level is a set value -7dB) is output simultaneously from the called side.

Ā : 2400Hz tone signal output from the called side (Phase inversion of A) . 1800Hz guard tone.

B : 1200Hz tone signal output from the called side

B̄ : 1200Hz tone signal output from the calling side (Phase inversion of B)

INFO 0x : Binary signal for indicating auto modulation option signal (x=a/c: a: called side, c: calling side)

L1, L2 : Signal for conditioning line characteristics (tone synthesis at the interval of 150Hz from 150 to 3750Hz (except for 900, 1200, 1800 and 2400Hz))

L1: 160ms Level= Set value+6dB

L2: Maximum 550ms+TRDEx Level = Set value

INFO h : Binary signal for indicating parameters used in Phase 3 (training of main channel equalizer). This signal is sent from a modem receiving main channel data to a transmitting modem.

*1 INFO 0c Bit28 OFF

*2 INFO 0a Bit28 OFF

INFO 0x Bit Assignment

Bits (LSB-MSB)	Value	Meaning
0-3	1111	Fill Bits
4-11	01110010	Bit string for frame synchronization
12	0/1	2743 symbol / sec support
13	0/1	2800 symbol / sec support
14	0/1	3429 symbol / sec support
15	0/1	Ability to transmit at low carrier frequency at 3000 symbol / sec
16	0/1	Ability to transmit at high carrier frequency at 3000 symbol / sec
17	0/1	Ability to transmit at low carrier frequency at 3200 symbol / sec
18	0/1	Ability to transmit at high carrier frequency at 3200 symbol / sec

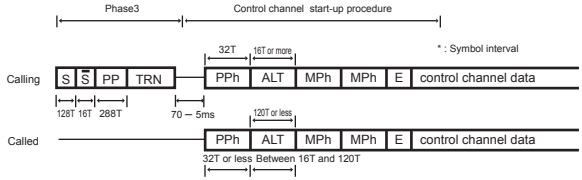
Bits (LSB-MSB)	Value	Meaning
19	0/1	3429 symbol / sec transmission
20	0/1	Ability to lower the transmission level than a preset value
21-23	0 to 5	Maximum tolerance of symbol rates between transmission and reception 0: 2400, 1:2743, 2:2800, 3:3000, 4:3200, 5:3429 symbol / sec
24	0/1	1=INFO 0 is sent from the CME modem
25	0/1	1664 signal point (33.6K) ability
26-27	0 to 3	Clock source transmission 0: internal, 1: external, 2: synchronous to the reception clock 3: Reserved
28	0/1	1=Correct INFO 0 frame is received during error recovery
29-44		CRC
45-48	1111	Fill Bits

INFO h Bit Assignment

Bits (LSB-MSB)	Value	Meaning
0-3	1111	Fill Bits
4-11	01110010	Bit string for frame synchronization (transmitted from the left side)
12-14	0 to 7	Output reduction width demanded by the reception modem (dB) When *the modem on the transmitting side can not reduce output* at INFO 0, the value is set to 0.
15-21	0 to 127	The length of TRN which the modem of the transmitting side send in the Phase 3 (x35ms)
22	0/1	High carrier is user for data mode Tx.
23-26	0-10	Pre-emphasis filer index No.which is used for data transmission
27-29	0-5	Symbol rate of data transmission 0: 2400 ... 5: 3429 (symbol / sec)
30	0/1	Selection of parameters used for TRN. 4 points / 16 points
31-46		CRC
47-50	1111	Fill Bits

(3-3) Phase 3 .....Training of the main channel equalizer

- Band division full-duplex method
- Transmission and reception of Phase 3 signals (S, $\bar{S}$, PP, TRN) are executed by using parameter values which are determined by exchanging INF Oh. (symbol rate, carrier frequency, pre-emphasis filter and transmission level)



The speed of the following signals (Phase 3) are determined by INFOh. (The following signals are used in the main channel in the half-duplex procedure.)

S : Signal which sends alternately 0 point and a point which rotated 0 point counterclockwise by 90 degrees

$\bar{S}$: Signal which sends alternately a point which rotated 0 point counterclockwise by 180 degrees and a point which rotated 0 point counterclockwise by 270 degrees

PP : Special signal which is sent from a remote station for adjusting an equalizer

TRN : Training signal. (Symbol rate and duration are determined in INFOh.)

Control channel signal

The following signals are used for establishing the control channel or re-synchronization and retrain. (peculiar to half-duplex procedure)

Modulation method:1200 / 2400bps QAM modulation (600 ± 0.01 symbols / sec). However, training and synchronous signals are 1200bps.

Calling modem : Carrier (=1200Hz ± 0.01% (level = set value))

Called modem : Carrier (=2400Hz ± 0.01% (level = set value-1dB))

+Guard tone(=1800Hz ± 0.01% (level = set value-7dB))

Sh : Signal which sends alternately 0 point and a point which rotated 0 point counterclockwise by 90 degrees (the same as S)

$\bar{Sh}$: Signal which sends alternately a point which rotated 0 point counterclockwise by 180 degrees and a point which rotated 0 point counterclockwise by 270 degrees (the same as S)

AC : Signal which send alternately 0 point and a point which rotated 0 point by 180 degrees

PPh : Special signal which is sent from a remote station for adjusting an equalizer (used when the initial of the control channel and re-synchronization are executed)

ALT : Signal which scrambled alternate signals of 0 and 1 (1200bps)

MPh : Binary signal used for exchanging parameters of the modulation method when data is actually sent and received by using the main channel

(Both type 0 and type 1 (type 0+pre-recording coefficient) must be received.)

(When type 0 is received, pre-recording coefficient is considered to be 0 and never functions.)

E : “1”, binary of 20 bit, which represents the beginning of user data transmission on the control channel

MPh (type 0) Bit Assignment

Bits (LSB-MSB)	Value	Meaning
0-16	All bit 1	Bit string for frame synchronization
17	0	Start bit
18	0	MP signal type
19	0	Reserved
20-23	1 to 14	Maximum transmission rate from the calling modem to the called modem (x2400) ▼1
24-26	0,0,0	Reserved
27	0/1	Control channel data transmission rate which is selected by the opposed transmitter 1200bps / 2400bps
28	0	Reserved
29-30		Trellis coding device selection ▼2 (00: 16 state, 10: 32 state, 01: 64 state and 11: Reserved)
31	0/1	Non-linear encoder parameter selection for the terminal transmitter of a remote station ▼2 (0: ϕ =0, 1: ϕ 0.3125)
32	0/1	Parameter (shaping) selection when the data rate is determined within each symbol rate ▼2 (0: Minimum, 1: Expanded)
33	0	Reserved
34	0	Start bit
35-49		Communication speed mask (0/1=Ability of both modems disabled / enabled) (Bit35=2400bps ... Bit46=28.8kbps, Bit47=31.2kbps, Bit48=33.6kbps and Bit49=Reserved)
50	0/1	Use of control channel imbalance data rate No / Yes
51	0	Start bit
52-67	0	Reserved
68	0	Start bit
69-84		CRC
85-87	0,0,0	Fill Bits

▼1 13 and 14 are used when the opposed modem supports up to 1664 points

▼2 Set to 0 on the transmitting modem.

MPh (type 1) Bit Assignment

Bits (LSB-MSB)	Value	Meaning
0-16	All bit 1	Bit string for frame synchronization
17	0	Start bit
18	1	MP signal type
19	0	Reserved
20-23	1 to 14	Maximum transmission rate from the calling modem to the called modem (x2400) ▼1
24-26	0,0,0	Reserved
27	0/1	Control channel data transmission rate which is selected by the opposed transmitter 1200bps / 2400bps
28	0	Reserved
29-30		Trellis coding device selection ▼2 (00: 16 state, 10: 32 state, 01: 64 state and 11: Reserved)
31	0/1	Non-linear encoder parameter selection for the terminal transmitter of a remote station ▼2 (0: ϕ =0, 1: ϕ 0.3125)
32	0/1	Parameter (shaping) selection when the data rate is determined within each symbol rate ▼2 (0: Minimum, 1: Expanded)
33	0	Reserved
34	0	Start bit
35-49		Communication speed mask (0/1=Ability of both modems disabled / enabled) (Bit35=2400bps ... Bit46=28.8kbps, Bit47=31.2kbps, Bit48=33.6kbps and Bit49=Reserved)
50	0/1	Use of control channel imbalance data rate No / Yes
51	0	Start bit
52-67		Pre-coding coefficient h(1) Real
68	0	Start bit
69-84		Pre-coding coefficient h(1) Imaginary
85	0	Start bit
86-101		Pre-coding coefficient h(2) Real
102	0	Start bit
103-118		Pre-coding coefficient h(2)Imaginary

Bits (LSB-MSB)	Value	Meaning
119	0	Start bit
120-135		Pre-coding coefficient h(3) Real
136	0	Start bit
137-152		Pre-coding coefficient h(3)Imaginary
153	0	Start bit
154-169		Reserved
170	0	Start bit
171-186		CRC
187	0	Fill Bits

▼1 13 and 14 are used when the opposed modem supports up to 1664 points

▼2 Set to 0 on the transmitting modem.

(3-4) Re-synchronization procedure / Startup procedure

A procedure required to switch control channel and main channel in the half-duplex procedure

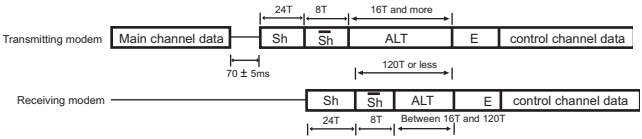
A procedure which includes another modulation parameter exchanging is especially called the startup procedure. (used for changing the communication speed)

Startup procedure

- Control channel startup procedure: See the 3-3 figure. (By exchanging MPh, the communication speed is changed.)
- "Control channel re-synchronization procedure" is not used.

Re-synchronization procedure

- Control channel re-synchronization See signals related to control channels in 3-3 for signal names and change method.



Main channel re-synchronization procedure and Turn-off

The receiving modem re-synchronizes the main channel by using the PP signal. After B1, starts receiving Primary Data.

The transmitting modem sends the scrambled 1's for 35ms after Primary Data transmission has been completed.

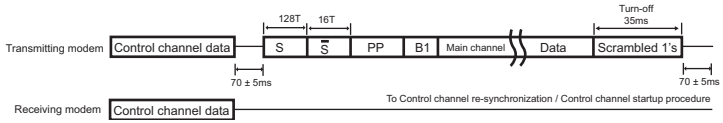
Both modems move to the control channel re-synchronization procedure or the control channel startup procedure.

S : Signal which sends alternately 0 point and a point which rotated 0 point counterclockwise by 90 degrees

$\overline{S}$: Signal which sends alternately a point which rotated 0 point counterclockwise by 180 degrees and a point which rotated 0 point counterclockwise by 270 degrees

PP : Special for adjusting an equalizer

B1 : High-speed signal of one frame length which is sent at the end of a series of startup sequence in the selected modulation parameter.



(4) Others

(4-1) Minimum reception signal level (RLSD) (half-duplex mode only)

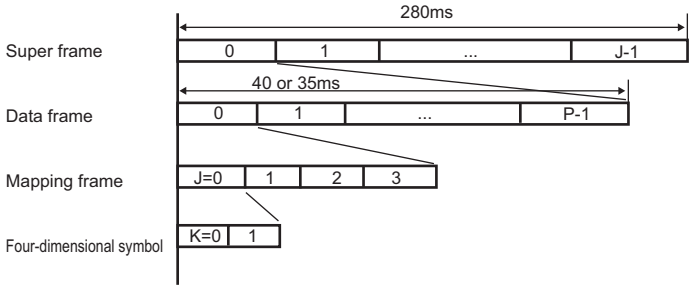
- The reception circuit is turned to On when the signal becomes 43 dBm or more
- When the signal becomes 48 dBm or less, the reception circuit is turned Off within 20 to 25ms after it has exceeded the thresh old.

(4-2) Data frame structure

All data transmitted in V.34 (after the Phase 4) is treated in the following frame format.

J :The number of data frames within one super frame

P :The number of mapping frames within one data frame



Modulation Speed	J	P
2400 baud	7	12
2743 baud	8	12
2800 baud	7	14
3000 baud	7	15
3200 baud	7	16
3429 baud	8	15

7.2.TELEPHONE FUNCTION

7.2.1 TEL/FAX Switching

Outline

A function to switch telephone and FAX automatically after reception. Depends on Country spec.

<Operation>

(1) When CNG is not detected for 2 seconds (or 4 seconds, following parameter) after line seizure, this function sends Voice response message 1 and continues CNG detection.

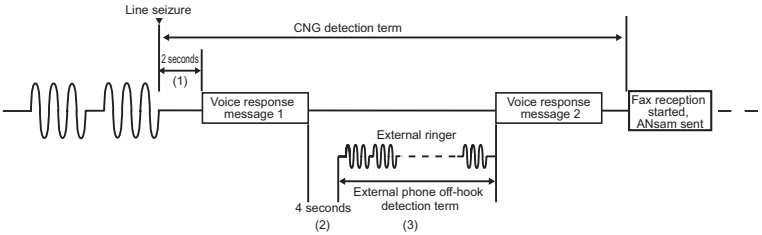
(2) If voice response 1 is sent and CNG detection is continued for 4 seconds but could not be detected, external ringer is sent to the externally installed phone.

(3) When CNG is not detected for a given period (Default is 20 seconds. Changeable by address parameters), this function stops External ringer transmission and becomes FAX reception after the voice response message 2 is sent.

(4) This function detects OFF-HOOK of the external telephone during External ringer transmission only.

(5) When OFF-HOOK of the external telephone is detected during External ringer transmission, the line is connected to the external telephone. Even if you use the telephone, you can manually switch to the FAX reception after that.

(6) When CNG is detected during the above-mentioned External ringer transmission, External ringer transmission is stopped and the FAX reception starts.



No.	FP	Meaning And Purpose	Address	Value	Default	Note
1	Tel-Fax switching	External telephone off-book detection function	0x0e0095 bit4 bit5	00: No 10: Normal (RBT transmission)	00	Those with a serviceman setting
2	RBT transmission time	External ringer transmission time (3) (in steps of 1 second)	0x0e00f8	unit: 1000 ms, HEX	0x14 (20 sec.)	A serviceman setting by address setting
3	Tel-Fax switching parameter	Time from vocal response to RBT transmission (CNG detection waiting time 2)	0x0e004e bit7	0: 2 sec 1: 4 sec	0	Same as the above

No.	FP	Meaning And Purpose	Address	Value	Default	Note
4	Tel-Fax switching parameter	Time from reception to voice response transmission (CNG detection waiting time 1)	0x0e004e bit6	0: 4 sec 1: 2 sec	0	Same as the above

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8 EXPLANATION OF FUNCTIONS

8.1.F-CODE

F-code is a function to realize confidential transmission / bulletin board polling / relay transmission by using SUB, SEP and SID signals.
To be more specific, a machine which can open “a box” on the memory is called “a F code compliant center machine” and a machine which can access to a center machine by using the F code function is called “a F-code compliant machine.” The center machine can have plural “boxes” and they are used as the confidential box, bulletin board box and relay box respectively.

Function	Outline	Signals to be used				Required Function	Remarks
		SUB	SEP	SID			
Confidential transmission	Sent to the center machine which opens a confidential box by appointing the confidential box No. (The center machine has memory reception to the confidential box.)	Used	Not	Optional	SUB = Appointment of a confidential box SID = Password	Registration = Message adding	Each box No. = Contents of a signal (20 digits or less)
Bulletin board polling	By appointing a box No. in the center machine which opens a bulletin board, contents are polled.	Not	Used	Not	SUB = Appointment of a bulletin board box	Registration = Message overwriting With a mode which is not deleted by polling	
Relay transmission	Requesting relay to the relay machine which opens a relay box (No.) in which a broadcasting transmission remote station is registered.	Used	Not	Used	SUB = Appointment of a relay box (No.) SID = Password		

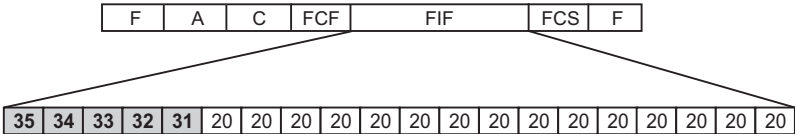
A. Signal format

a. Contents of signals

Item / Signal Name	SUB/SEP	SID
Characters	0 to 9 only (* and # must not be used.)	0 to 9, * and #
Contents	Box No.	Password
No. of digits	Arbitrary between 1 and 20	
Space between digits	Prohibited	
Others	Impossible to designate more than one box	

b. FIF (SUB/SEP/SID) Common

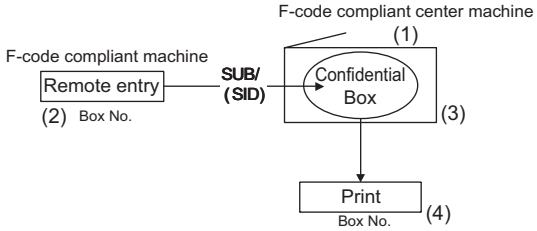
The last digit is left-justified. The remaining are filled with space (0x20)
eg.) 12345



c. DIS/DTC/DCS bit Condition

Bit No.	Meaning	DIS/DTC	DCS
47	Selective polling ability	DIS = ON when SEP reception is possible DTC = On when SEP is transmitted	0: fixed
49	Sub address ability / function	ON when SUB reception is possible	ON when SUB transmission is possible
50	Password / sender ID	DIS = ON when SID reception is possible DTC = On when SID is transmitted	ON when SID is transmitted

8.1.1 F-Code Confidential Transmission



(1) The confidential box is registered in the center machine.

- Registration of confidential box No. and name
- Registration of communication password
- Registration of Box password

(2) Transmission operation on the transmitting side

- Specification of confidential box No.

(3) Reception in the center machine

- Automatic output of confidential communication report

(4) Printing in the center machine

- Output by entering an access protect No.

BOX specifications

(1) Confidential BOX No. ..... Represented by a nine digit number. Operationally between 1 and 999999999. You can not open the same BOX number as the bulletin board No. which has been already opened.

(2) Communication password..... Possible to use.

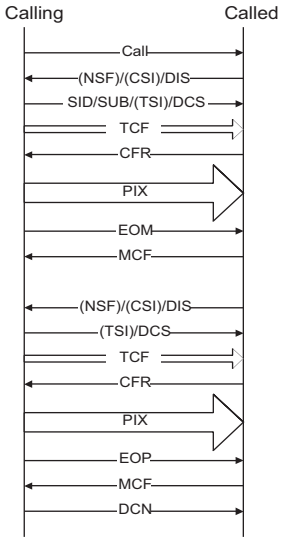
(3) Confidential BOX name ..... Possible to resister up to 10 characters.

(4) Erased at printing ..... Erased on every page after output.

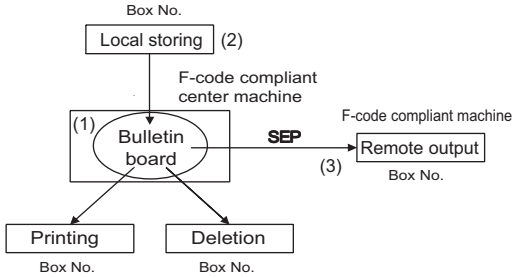
(5) Box password ..... Represented by a four digit number between 0000 and 9999.

(6) No. of files in confidential box ..... 100 files at the maximum including bulletin board.

Example of the Protocol Sequence



8.1.2 F-Code Bulletin Board Polling



(1) Registration of the bulletin board box in the center machine

- Registration of the bulletin board No. and name

(2) Storing documents in the bulletin board

(3) Operations for polling reception on the compliant machine

- Appointment of bulletin board No.

BOX specifications

(1) Bulletin board BOX No. .....Represented by a nine digit number. Operationally between 1 and 999999999. You can not open the same BOX number as the confidential box which has been already opened.

(2) Bulletin board password.....No

(3) Bulletin board BOX name .....Yes 10 Character max

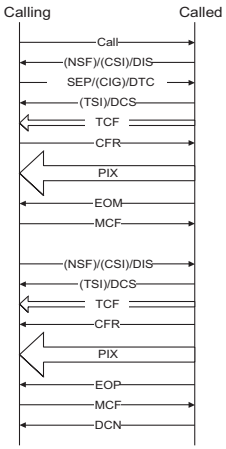
(4) Erased at printing.....Not erased when printed.

(5) Erased at polling .....Not erased when polled.

(6) Access protect No. .....No

(7) No. of document registration to the bulletin board BOX
Only once. If already exist, it is overwritten.

Example of Protocol Sequence



8.2.TRANSMISSION FUNCTION

8.2.1 Original Scan Mode

The original scan mode is roughly classified by the regular original scan and the irregular original scan.

Regular original	Irregular original	Mode selection
Normal mode	Irregular mode	Default setting
Mixed original mode		Scan setting

Scan Mode Default Setting

The scan mode can be set by using the function parameter of the service mode. The default is the ADF irregular mode.

	Paper size detection	Default	Frame erasure
Irregular mode	Trailing edge detection	Yes	Trailing edge erasure may not be done.
Normal mode	ADF paper size sensor	Automatically selected when using the page related application function (book transmission, etc.).	Frame erasure of all sides

8.3.RECEPTION FUNCTION

8.3.1 Reduction / Division of Reception

Parameters related to reduction / division are set on the [Utility/Counter] > [Administrator Setting] > [Fax Setting] > [TX/RX Setting]. There are two parameters as follows:

"Min. Reduction for RX Print"96, 95, 94, ..., 87.....a

"Print Separate Fax Pages" ON, OFF.....b

The reception recording mode is determined by the above-mentioned parameters, a and b.

- Auto reduction reception mode

a = Don't care (except 100)

b = OFF

The received documents are automatically reduced in the range of 35 to 96 %.

- Page division recording reception mode

a = 96, 95, ..., 87

b = ON

Documents are reduced to three reduction rate (90%, 86%, or 82%) determined by the width of received documents and the selected recording paper. When they are still larger than a paper size, they are reduced to a value in "a" for the division recording.

90% = Fixed value

86%, 82% = Reduction rate determined by the main scanning direction

The paper selection and division are determined in accordance with the following figure.

Paper selected for division printing, magnification

A4SEF width at reception

Original length =Received original size*(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
152mm or less	A5 LEF	A5LEF / a %	A5SEF / 69 %	A4SEF / a %	A4LEF / a %	B5SEF / 84 %	B5LEF / a %	B4SEF / a %	A3SEF / a %
153 - 311mm	A4 SEF	A4SEF / a %	A4LEF / a %	B4SEF / a %	A3SEF / a %	-	-	-	-
312 - 384mm	B4 SEF	B4SEF / a %	B5LEF / a %	B5SEF / 84 %	A3SEF / a %	A4LEF / a %	A4SEF / a %	-	-
Over 384mm	A3SEF	A3SEF / a %	A4LEF / a %	B5SEF / 84 %	-	-	-	-	-

B4SEF width at reception

Original length =Received original size *(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
189mm or less	B5 LEF	B5LEF / a %	B5SEF / 71 %	B4SEF / a %	A4SEF / 82 %	A4LEF / a %	A3SEF / a %	-	-
189 - 384mm	B4 SEF	B4SEF / a %	B5LEF / a %	B5SEF / 71 %	A3SEF / a %	A4LEF / a %	A4SEF / 82 %	-	-
Over 384mm	A3 SEF	A3SEF / a %	A4LEF / a %	A4SEF / 82 %	-	-	-	-	-

A3SEF width at reception

Original length =Received original size *(1/a)	Optimum paper	Selected paper size / Division operation							
		Priority 1	Priority 2	Priority 3	Priority 4	Priority 5	Priority 6	Priority 7	Priority 8
219mm or less	A4 LEF	A4LEF / a %	A4SEF / 69 %	B4SEF / 85 %	A3SEF / a %	-	-	-	-
Over 219mm	A3 SEF	A3SEF / a %	A4LEF / a %	A4SEF / 69 %	-	-	-	-	--

a : Set magnification

8.3.2 Cassette / Paper Selection

The cassette and paper selection is performed by using two parameters of the [Utility/Counter] > [Administrator Setting] > [Fax Setting] > [TX/RX Setting].

"Print Paper Selection".Auto Select, Fixed Size, Priority Size.....a

"Tray Selection for RX Print" Auto, Tray 1, Tray 2, Tray 3 and Tray 4.....b

When "b" is fixed to tray 1, 2, 3 or 4, "a" becomes invalid.

Only when "b" is set to Auto, "a" becomes valid.

Only A3, B4 and A4 sizes can be selected for the fixed size and preferential size modes.

Bypass cannot be specified as fix-tray.

Page dividing function becomes invalid when the tray is fixed.

8.3.3 Compulsory memory Reception

The function to enable to print out by operations without printing out documents at reception in the FAX communications.

Related settings

(1) Compulsory memory reception function

- Set in the Service menu > [FAX] > [System].
- When this setting is set to OFF, display and actions related to the Compulsory memory reception are not performed. In addition, you can not perform operations. If this setting is not set, the following Compulsory memory reception function used is also set to disabled.

(2) Compulsory memory reception function use

- Set in the [Utility/Counter] > [Administrator Setting] > [Fax Setting] > [Function Setting].
- When this setting is set to disabled, the Compulsory memory reception actions are not performed at reception. In addition, you can not display, erase and print the Compulsory memory reception documents. The Compulsory memory reception documents are displayed on the main menu irrelevant to this setting.

(3) Compulsory memory reception password

- Within eight digits (eight-digit number)
- Set in the [Utility/Counter] > [Administrator Setting] > [Fax Setting] > [Function Setting].
- This setting is required to display, delete or print the Compulsory memory reception documents.

Operation

Necessary conditions for this function

- When there is the Compulsory memory reception function, and it is used, the Compulsory memory reception action is performed.

Line seizure

- It is possible to receive up to 100 Compulsory memory reception jobs including the normal reception and the substitute reception. When 100 Compulsory memory reception jobs are received, machine will not

catch the line. (Except the case that the polled transmission documents and bulletin board documents are registered.)

Reception

- When the reception is performed in the Compulsory memory reception mode, printing is not performed even with recording paper and the reception is performed in memory as the Compulsory memory reception documents.
- The same as in the polled reception and manual reception.
- The auto forwarding setting is neglected in this mode, and the Compulsory memory reception is performed.
- When SUB is received, related applications will start.

Setting change

- When there are received Compulsory memory reception documents, even if the Compulsory memory reception setting is set to invalid in the Utility Mode, the Compulsory memory reception file is not printed.
- For printing, the Compulsory memory reception setting is required to be set to "ON."

8.3.4 Closed Reception (Junk FAX)

The closed reception function used only at the time of the reception by using the F-code SID signal.

(1) Closed reception function

- Set in the Service menu > [FAX] > [System].

(2) Closed reception function use

- Set in the [Utility/Counter] > [Administrator Setting] > [Fax Setting] > [Function Setting].
- When this setting is set to disabled, the closed reception actions are not performed at reception.

(3) Closed reception password

- 8 digits or less (Utility Mode setting, 0 to 9, * and #)

NOTE

- **You can not use this function with the F-code communications.**

8.4.MANAGEMENT FUNCTION

8.4.1 Operation without the Key Counter

Related settings

(1) Transmission without the key counter

- Set in the Service menu > [FAX] > [System].
- FAX transmission is inhibited when this setting is set to OFF and there is no key counters (default).

FAX operations without the key counter

The following show the settings without the key counter and whether operations / actions start requests are accepted or not.

Operation	When disabled	When enabled	Remarks
Transmission	No	Yes	
Polling reception	No	Yes	
Manual reception	No	Yes	
Auto FAX communication / Printer data reception /Auto print	Yes	Yes	
Report printing in the utility mode (FAX)	No	No	
Report printing	No	No	
Report print in the utility mode (copy)	No	No	

Pulling out the key counter during FAX operations

The following show settings and their actions when the key counter is pulled out during actions

Actions	When disabled	When enabled	Remarks
While scanning the quick memory transmission	Stop scanning (transmitted those already scanned)	No influence	
While scanning the memory transmission	Stop scanning (does not transmit)	No influence	
FAX communication	No influence	No influence	
While printing the FAX reception	No influence	No influence	
While printing the printer	No influence	No influence	
While printing the auto report	No influence	No influence	
During report print of the utility mode (FAX)	No influence	No influence	
During report print of 36 modes	Follows DIPSW 1-0	Follows DIPSW 1-0	
While report print of the utility mode	Follows DIPSW 1-0	Follows DIPSW 1-0	

9 APPENDIX

9.1.ADDRESS PARAMETER LIST

NOTE

- **When changing a value in this address parameter list, be sure to comply with the phone line standards of other countries. Depending on values that have been changed, compliance with the phone line standards of other countries may not be obtained.**

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode (0-3)	0b0000	Redial interval					Redial interval (min, HEX, 0 - 15)				0x03	0x03	0x03
Utility Mode (0-2)	0b0001	No. of busy redials					No. of busy redials (No, HEX, 0 - 15)				0x03	0x01	0x03
Utility Mode Special Setting (0-2)	0b0002	No. of error redials					No. of error redials (No, HEX, 0 - 15)				0x03	0x01	0x03
Utility Mode (0-2) Utility Mode Special Setting (0-2,4)	0b0003	Setting related to FAX memory		V34 mode at the time of error page redial (0: Inhibited, 1: Enabled)		Resend from the first page at the time of error page redial 0: Retransmitted from error page 1: Retransmitted from initial page	Call acceptance operation with toner empty (0: Refused, 1: Permitted)				0x00	0x00	0x00
Utility Mode (3-5) Utility Mode Special Setting (2,6,7)	0b0004	FAX communication HP			Quick memory transmission (0:OFF, 1:ON)	File deleted after polled transmission (0:Yes, 1:No)	Reception mode (0:Auto, 1:Manual)	V.34 0: OFF 1: ON	International transmission (0:OFF, 1:ON)	ECM transmission (0:OFF, 1:ON)	0x05	0x05	0x05
Utility Mode (0,1,6)	0b0005	Forward TX Setting		Two-sided recording of FAX (0:Possible. 1:Impossible)			Default transfer FAX setting (00: Not specified, 01: Line 1, 10: Line 2)		Forward TX Setting 00:No forwarding 01:Forwarding + Always (print) 10:Forwarding + Only when not delivered (print) 11:Not defined		0x00	0x00	0x00
Utility Mode (0,1,2, 4,6,7)	0b0006	FAX reception automatic output setting	Two-sided recording		Inched recording paper selection	Page unit recording	Face-up output	Page division recording	Output tray HP 00:Tray 1 01:Tray 2 10:Tray 3 11:Tray 4		0x01	0x01	0x01
Utility Mode (2-5) Utility Mode Special Setting (6,7)	0b0007	FAX reception automatic output setting 2	STOP is effected for printing during reception	STOP is effected for printing after reception	Inched paper priority	Paper tray fixing 000:Tray 1 001:Tray 2 010:Tray 3 011:Tray 4 100:LCT 101:Auto			LG is used.	LT is used.	0xd4	0xf4	0xd4

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode (0,1)	0b0008	Setting of recording paper for reception	Selection without A5R 0:A4->B5 1:B5->A4						Paper select mode 00:APS 01:Recording paper designation mode 1 10:Recording paper designation mode 2		0x00	0x00	0x00
Utility Mode	0b0009	Setting of recording paper size for reception				01000:A3R 01001:B4R 01111:A4 10001:8.5×14R 11000:11×17R 11111:8.5×11					0x0f	0x1f	0x0f
---	0b000a	Target reduction rate when A4/LTR is used									0x5a	0x5a	0x5a
---	0b000b	Other target reduction rate									0x5d	0x5d	0x5d
Utility Mode Special Setting (0)	0b000c	BOOT rewrite on FAX ISW								Boot area rewrite 0:No 1:Yes	0x00	0x00	0x00
---	0b000d	Reduction rate used in APS	Received image reduction rate at APS								0x5d	0x5d	0x5d
Utility Mode	0b000e	Minimum reduction rate	Received image reduction rate at APS (A3/B4 width)								0x60	0x60	0x60
Utility Mode (0-3)	0b000f	Restored transmission	Debug mode 0:OFF 1:ON(3min)				File holding time 0000:12 hours 0001:24 hours 0010:48 hours 0011:72 hours				0x00	0x00	0x00
---	0b0010	Inter-station timer	HEX (unit: second)(00 - ffh)(00 means 03)								0x03	0x03	0x03
Utility Mode (0)	0b0011	Night reception								0:Rx + print 1:Rx only	0x00	0x00	0x00
	0b0012-0b0015	Reserved area									0xff	0xff	0xff
Utility Mode (0-5)	0b0016	PC-FAX RX	TSI routing function 0:OFF 1:ON	At operation with PC-FAX Rx code unspecified 0:PC Reception 1:Print	PC-FAX Rx print 0:No 1:Yes		PC-FAX reception mode 000:OFF 001:ON+Received at fixed box 010:Dialin+Received at fixed box 011:ON+Received at specified box 100:Dialin + Reception at specified box			Password check 0:OFF 1:ON	0x10	0x10	0x10
Utility Mode	0b0017-0b002a	PC-FAX reception password	ASCII 20 digits								ALL 0x20	ALL 0x20	ALL 0x20
Utility Mode (0-3)	0b002b	FAX reception automatic output setting 3					Output No. of copies Setting range:0 - (15)				0x01	0x01	0x01
Utility Mode (0)	0b002c	Setting for 2 lines	Line 2 transmission setting (00: Transmission/Reception, 01: Reception only, 10: Transmission only)		Default Ext/Out setting for PC-FAX transmission (0: Out, 1: Extension)	Default Ext/Out setting for Forward TX: (0: Out, 1: Extension)	Default Ext/Out setting (0: Out, 1: Extension)	Setting using Line 1 (0: Out, 1: Extension)	Setting using multiple lines (0: Normal, 1: Ext/Out)		0x00	0x00	0x00
Utility Mode (0-1)	0b002d	PC-FAX Setting							PC-FAX transmission line specification (00: Not specified, 01: Line 1, 10: Line 2, 11: Reserved)		0x00	0x00	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode (0)	0b0032	I-Fax encoding system capability (default for auto transmission capability)						000 : (Setting prohibited) 001 : MH 010 : MR/MH 100 : MMR/MR/MH			0x04	0x04	0x04
Utility Mode (0-3)	0b0039	communication function	Interception of 1-address transmission in broadcasting transmission (0: Permitted, 1: Prohibited)	ITI printing, unit ID preference function (0: Not preferred, 1: Preferred)		F code transmission function 0:No 1:Yes	Bundled TX Function 0:No 1:Yes	Restored transmission function 0:No 1:Yes	Relay reception function 0:No 1:Yes	Confidential reception function 0:No 1:Yes	0x0c	0x0c	0x0c
Utility Mode Service Mode	0b003a - 0b0067	Character ID [46]	ASCII[46] When ID is less than 46 digits, justify to the left and insert space at the top. (No NULL terminators)								ALL 0x00	ALL 0x00	ALL 0x00
Utility Mode (0)	0b0068	Reception refuse								Call acceptance rejected - Number display 0:Disconnected line 1:No response	0x00	0x00	0x00
Utility Mode	0b0069	Recording paper priority selection							00:Automatic selection 01:Fixed size 10:Priority				
Utility Mode	0b006a	Box number error operation				Print or not print the images received when the TSI transfer terminates normally. 0:OFF 1:ON	Operation with no routing registration or no registered BOX upon the TSI routing turned ON (0: Print output, 1: Saved in forced memory recep-	Reception of unregistered box sub No. 00:Print 01:Main line 10:Sub line			0x00	0x00	0x00
Utility Mode	0b006b	Transmission line specification							Transmission line specification 00: Not specified, 01: Main line, 10: Sub line		0x00	0x00	0x00
Utility Mode	0b006c	Reserved area									0x00	0x00	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e0000	Error line processing/judgment	RTP transmission		Error line recirculation	Addition of error sign		Judgment of No. of sequential error lines	Error line rate judgment	Judgment of No. of error lines	0x01	0x01	0x01
---	0e0001	No. of error lines-very good	No. of very good judgment lines (HEX) No. of error linesVeryGoodErrorNum, MCF is transmitted.								0x10	0x10	0x10
---	0e0002	No. of error lines-good	No. of good judgment error lines (HEX) VeryGoodErrorNum<No. of error linesGoodErrorNum, RTP is transmitted								0x40	0x40	0x40
---	0e0003	No. of error lines-bad	No. of bad judgment error lines (HEX) GoodErrorNum<No. of error lines BadErrorNum, RTN is transmitted. No. of error lines>BadErrorNum, it is considered to be error line over.								0x80	0x80	0x80
---	0e0004	Rate of error lines-very good	Rate of very good judgment error lines (HEX, %) Rate of error linesVeryGoodErrorPercent, MCF is transmitted.								0x05	0x05	0x05
---	0e0005	Rate of error lines-good	Rate of good judgment error lines (HEX, %) VeryGoodErrorPercent<Rate of error linesGoodErrorPercent, RTP is transmitted. Rate of error lines>GoodErrorPercent, RTN is transmitted.								0x0a	0x0a	0x0a

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e0006	No. of continuous error lines-bad	No. of bad judgment sequential error lines (HEX) Normal No. of sequential error linesErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.								0x03	0x03	0x03
---	0e0007	No. of continuous error lines-bad	No. of bad judgment sequential error lines (HEX) Fine No. of sequential error linesErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.								0x06	0x06	0x06
---	0e0008	No. of continuous error lines-bad	No. of bad judgment sequential error lines (HEX) 300dpi No. of sequential error linesErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.								0x09	0x09	0x09
---	0e0009	No. of continuous error lines-bad	No. of bad judgment sequential error lines (HEX) Super fine No. of sequential error linesErrorContNormal, MCF is transmitted. No. of sequential error lines>ErrorContNormal, RTN is transmitted.								0x0c	0x0c	0x0c
Utility Mode Special Setting (0,2)	0e000a	EP tone addition						V.17	V.33	V.29	0x06	0x06	0x06
---	0e000b	CED detection-transmission frequency							CED detection 0: Detect 1: Not detect	CED transmission frequency 0:2100Hz, 1:1100Hz	0x00	0x00	0x00
---	0e000c	TSI/CSI/CIG parameter	TSI transmission 0: No 1: Always	CSI Transmission 0: No 1: Always	CIG Transmission 0: No 1: Always					Character ID is put on CSI.	0xe0	0xe0	0xe0
Utility Mode Special Setting (6)	0e000d	G3ModeError	Ph-C8 min. limit timer at NonECM 0: No 1: Yes	Selection of "-" at dial top 0:OFF 1:ON	RTN reception 0:step down 1: Line disconnect.	Remote reception ID received 1: No limit	DIS retransmission interval in manual reception 0:4.5 sec. 1:3.0 sec.	DCN transmission at T200	DIS length at reception limited to 4byte 0: No limit 1: Limit	DCN transmitted at stop of ph.C	0x00	0x00	0x00
---	0e000e	Step up/down	Strict TCF check								0x00	0x00	0x00
Utility Mode Special Setting	0e000f	Delay timer between DCS-TCF	DCS - TCF delay timer Unit: 10 ms, HEX)								0x08	0x08	0x08
Utility Mode Special Setting	0e0010	Delay timer between PIX-PMC	PIX - PMC delay timer Unit: (10 ms, HEX)								0x08	0x08	0x08
Utility Mode Special Setting	0e0011	Delay timer between CED-DIS	CED - DIS delay timer (Unit: 10 ms, HEX)								0x08	0x08	0x08
Utility Mode Special Setting	0e0012	T1 timer for calling	T1 timer for transmission (Unit: 1sec, HEX)								0x23	0x23	0x23
Utility Mode Special Setting	0e0013	T1 timer for called	T1 timer for reception (Unit: 1 sec, HEX)								0x23	0x23	0x23
---	0e0014	ph.C reception limited time	Max. reception time per page (Unit: min, HEX) 1to255 min.								0x0f	0x0f	0x0f
Utility Mode Special Setting	0e0015	Timer between EOLs	EOL - EOL timer (Unit: 100 ms, HEX)								0x82	0x82	0x82
---	0e0016	Timer between frames	Timer between frames (Unit: 1 sec, HEX)								0x23	0x23	0x23
Utility Mode Special Setting	0e0017	ANSam signal transmission time	ANSam signal transmission time (Unit: 100 ms, HEX)								0x28	0x28	0x28
---	0e0018	Ci signal transmission time	Ci signal transmission time (Unit: 100 ms, HEX)								0x05	0x05	0x05
---	0e0019	High-speed signal transmission waiting delay timer	High-speed signal transmission waiting delay timer (Unit: 10 ms, HEX) (Between CFR-PIX/MPS-PIX/CTR-PIX)								0x37	0x37	0x37

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e001a	ph.C top dummy data transmitting time	ph.C top dummy data transmission time (Unit: 100 ms, HEX) (Dummy data for non-ECM /Preamble at ECM)								0x04	0x04	0x04
---	0e001b	PTC Counter						The EOL counter judged to be RTC 000:EOL*2 001:EOL*3 010:EOL*4 011:EOL*5 100:EOL*6			0x01	0x01	0x01
---	0e001c	Reserved area									0x00	0x00	0x00
---	0e001d	Closed area communication						Polling TX	Polling RX		0x00	0x00	0x00
Utility Mode	0e001e - 0e0031	Machine password [20]	ASCII[20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminators)								All 0x20	All 0x20	All 0x20
---	0e0032 - 0e0045	CSRC password [20]	ASCII[20] When ID is less than 20 digits, justify to the left and insert space at the top. (No NULL terminators)								All 0x20	All 0x20	All 0x20
Utility Mode Special Setting (0)	0e0046	CPU Watch dog								Watch dog 0:OFF 1:ON	0x01	0x01	0x01
Utility Mode Special Setting	0e0047	T2 timer after CFR	T2 timer value after CFR x100ms(HEX)								0x3c	0x3c	0x3c
Utility Mode Special Setting	0e0048	T2 timer after EOM	T2 timer after EOM x100ms(HEX)								0x37	0x37	0x37
Utility Mode Special Setting	0e0049	JIM waiting timer	JIM waiting timer value x100ms(HEX)								0x5A	0x5A	0x5A
Service Mode	0e004a	Destination	0: US 1: Canada 2: Japan 3: Australia 4: New Zealand 5: Europe 6: Germany 7: UK 8: France 9: Switzerland 10: Netherlands 11: Belgium 12: Austria 13: Norway 14: Sweden 15: Finland 16: Ireland 17: Denmark 18: Italy 19: Spain 20: Portugal 21: Poland 22: South Africa 23: Taiwan 24: Saudi Arabia 25: China 26: Malaysia 27: Singapore 28: Korea 29: Hong Kong30: General purpose (OT) 31: Argentina								0x02	0x00	0x05
---	0e004b	Function when DIS signal is created								V8 capability, if available, of DIS to transmit with V21 0:V8bitON 1:V8bitOFF	0x01	0x01	0x01
---	0e004c	Signal check at the time of F code communication								Check of PWD and SID received signal in F code communication 0: Signal checked 1: PWD and SID not distinguished	0x00	0x00	0x00
---	0e004d	No. of CI signal transmission in manual transmission	CI signal repetitive transmission frequency when no ANSam received after CI transmission (times, HEX)								0x03	0x03	0x03
---	0e004e	Tel-Fax switching parameter	Time from vocal response to RBT transmission (CNG detection waiting time 2) 0:4 sec 1: 2 sec.	Time from reception to voice response transmission (CNG detection waiting time 1) 0:2 sec 1:4 sec							0x00	0x00	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e004f	Tone detection time (PB)	PB OFF time integration 0to15 (x10ms) (50ms if 0)				PB ON time integration 0to15 (x10ms) (50ms if 0)				0x55	0x55	0x55
---	0e0050	Time for modem response waiting timeout	Waiting event from modem/Response waiting timeout time (x10sec, HEX) (0 counted as 90 sec.)								0x00	0x00	0x00
---	0e0051	Continuous CRP reception frequency resulting in an error	Sequential CRP reception frequency resulting in error (x1 time, HEX) (0 counted as 3 times)								0x00	0x00	0x00
---	0e0052	1300Hz line seizure parameter detection time	1300Hz tone detection time for no-ringing reception (x100ms, HEX)								0x17	0x17	0x17
---	0e0053	1300Hz line seizure parameter detection frequency upper limit	1300Hz tone detection frequency upper limit for no-ringing reception (x10Hz, HEX)								0x85	0x85	0x85
---	0e0054	1300Hz line seizure parameter detection frequency lower limit	1300Hz tone detection frequency lower limit for no-ringing reception (x10Hz, HEX)								0x7f	0x7f	0x7f
---	0e0055	German specifications					ERR transmission (DTS sequence)	DCN reception error ignored	Line disconnected within 6 sec. after CD OFF in ph.C	Line disconnected upon reception of DIS to DTC	0x00	0x00	0x00
---	0e0056 - 0e0059	Reserved area									0x00	0x00	0x00
---	0e005a	Retransmission intervals of DIS (Auto reception)	DIS re-transmission interval in automatic reception (x0.1 sec.)								0x1e	0x1e	0x1e
---	0e005b - 0e005d	Reserved ares									0x00	0x00	0x00
---	0e005e	TTI for transmission							TTI in transmission TTI added 00:OFF 01:(OFF) 10:INSIDE 11:OUTSIDE		0x03	0x03	0x03
---	0e005f	Image reduction parameter								Reduction parameter in main scanning direction 0: Thick line kept 1: Thick line not kept	0x00	0x00	0x00
---	0e0060 - 0e008f	Reserved area									0x00	0x00	0x00

For main line (Address: 0e0090 - 0e011d)

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode Special Setting	0e0090	Transmission ATT	Tone signal/FSK transmission ATT (HEX) every 1 dBm (0 to -15dBm)				High-speed signal transmission ATT (HEX) every 1 dBm (0 to -15dBm)				0xAA	0xAA	0x88
Utility Mode Special Setting (0 - 3)	0e0091	CED transmission ATT					CED/ANS transmission ATT (HEX) every 1 dBm (0 to -15dBm)				0x0A	0x0A	0x08

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode Special Setting (0,1)	0e0092	CD/SED ON level							CD/SED ON level [dBm] 00:-33 01:-38 10:-43 11:-48		0x03	0x03	0x03
Utility Mode Special Setting (4,5)	0e0093	Transmission cable amplitude EQL			Transmission cable EQL 00:0dB 01:4dB1 10:8dB 11:12dB						0x00	0x00	0x00
Utility Mode Special Setting (4,5)	0e0094	Reception cable amplitude EQL			Reception cable EQL 00:0dB 01:4dB 10:8dB 11:12dB						0x00	0x00	0x00
Utility Mode (4,5)	0e0095	Tel-Fax switching			TEL/FAX switching mode 00: No 10: Normal (RBT transmission)						0x00	0x00	0x00
Utility Mode Special Setting (0 - 3,5 - 7)	0e0096	Ring Back Tone parameter	RBT format 000: None 001: Japan 010: US 011: UK 100: Germany 101 to 111: Others			CED transmitted upon Tel/Fax switching	RBT transmission level (HEX)0 to -15 dBm				0x2A	0x4A	0x68
Utility Mode Special Setting (6,7)	0e0097	International com mode operation	DIS waiting frequency 0: Always 1 time 1: Twice in overseas communication	Overseas communication 0: No 1: Yes							0x40	0x40	0x40
Utility Mode Special Setting (0,1,3,4)	0e0098	Starting speed in international mode (V29 modem)				9600bps/V.29	7200bps/V.29		4800bps/V27ter	2400bps/V27ter	0x02	0x02	0x02
Utility Mode Special Setting (4 - 7)	0e0099	Starting speed in international mode (V17 or V33 modem)	14400bps/v.17	12000bps/v.17	9600bps/v.17	7200bps/v.17					0x10	0x10	0x10
Utility Mode Special Setting	0e009a	Starting speed in international mode (V34)	33600bps/V.34	31200bps/V.34	28800bps/V.34	26400bps/V.34	24000bps/V.34	21600bps/V.34	19200bps/V.34	16800bps/V.34	0x20	0x20	0x20
---	0e009b	CD OFF timer	CD OFF timer (Unit: 100 ms, HEX)								0x14	0x14	0x14
---	0e009c	CD ON integration time	CD ON integration time (Unit: 100 ms. HEX)								0x06	0x06	0x06
Utility Mode Special Setting (0 - 3,7)	0e009d	Symbol rate maximum allowable value	V34 controlled ch data rate 0:1200 1:2400				Max. allowable symbol speed 0000:2400 0001:Reserved 0010:2800 0011:3000 0100:3200 0101:3429				0x05	0x05	0x05
Utility Mode Special Setting	0e009e	Symbol rate selection criteria	Attenuation distortion property (-6dBto+6dB) 0000:-6 0001:-5 0010:-4 0011:-3 0100:-2 0101:-1 0110:0 0111:+1 1000:+2 1001:+3 1010:+4 1011:+5 1100:+6				Band end S/N (-6dBto+6dB) 0000:-6 0001:-5 0010:-4 0011:-3 0100:-2 0101:-1 0110:0 0111:+1 1000:+2 1001:+3 1010:+4 1011:+5 1100:+6				0x66	0x66	0x66
Utility Mode Special Setting (0 - 3)	0e009f	Primary channel data rate selection criteria	V.34 reception gain correction (-4.0dBto+3.5dB) 0000:0 0001:+0.5 0010:+1.0 0011:+1.5 0100:+2.0 0101:+2.5 0110:+3.0 0111:+3.5 1000:-4.0 1001:-3.5 1010:-3.0 1011:-2.5 1100:-2.0 1101:-1.5 1110:-1.0 1111:-0.5				Primary channel data rate selection criteria (-8dBto+7dB) 0000:-8 0001:-7 0010:-6 0011:-5 0100:-4 0101:-3 0110:-2 0111:-1 1000:0 1001:+1 1010:+2 1011:+3 1100:+4 1101:+5 1110:+6 1111:+7				0x08	0x08	0x08

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e00a0	V34 primary channel fallback	No. of frame errors subjected to fallback (HEX)								0x03	0x03	0x03
---	0e00a1	V34 control channel fallback	EQMVAL value for fallback (HEX)								0x40	0x40	0x40
---	0e00a2	V34 off Rx-V34 off time after error	Timer value after V34 reception error used to reset V34 off reception (min, HEX) (Valid only when transmission side cannot be specified)								0x0a	0x0a	0x0a
---	0e00a3	V34 off Rx-V17 OK Rx times to reset V34 off Rx	No. of continuous success of V17 receptions used to reset V34 off reception after V34 reception error (times, HEX) (Valid only when transmission side can be specified with Caller ID)								0x0a	0x0a	0x0a
---	0e00a4	(Inhibit of) V34 off Rx-Function ON/OFF	V34off function for manual reception 0: Enable 1: Disable						V34 off reset mode = No. of successful continuous V17 receptions (ID specified) 0: Enable 1: Disable	V34 off reset mode = Time (ID cannot be specified) 0: Enable 1: Disable	0x00	0x02	0x02
---	0e00a5	JBIG parameter							FP JBIG of optional LO size is used for reduction 0: No 1: Yes	JBIG optional L0 function 0: No 1: Yes	0x01	0x01	0x01
---	0e00a6 - 0e00a9	JBIG LO size	JBIG optional LO size used for reduction (HEX) (setting range:0x01to0xffffffff) [0] = HH, [1] = HL, [2] = LH, [3] = LL								0x00 0x00 0x00 0x80	0x00 0x00 0x00 0x80	0x00 0x00 0x00 0x80
---	0e00aa	(Inhibit of) JBIG off Rx-Function ON/OFF							JBIG off function at A3 high-definition reception (DIS re-transmission) 0:OFF 1:ON	JBIG off function after JBIG reception error 0: Enable 1: Disable	0x00	0x00	0x00
---	0e00ab	JBIG off Rx-JBIG off time after error	Timer value after JBIG reception error to reset JBIG off reception (min, HEX)(10 min. if 0)								0x0a	0x0a	0x0a
---	0e00ac	PBX dial tone detection frequency upper limits	PBX dial tone detection frequency upper limit (unit: 10 Hz, HEX)								0x31	0x00	0x00
---	0e00ad	PBX dial tone detection frequency lower limits	PBX dial tone detection frequency lower limit (unit: 10 Hz, HEX)								0x1f	0x00	0x00
---	0e00ae	PBX dial tone tone detection time	PBX dial tone detection time or max. ON time value (unit: 20 ms, HEX)								0x32	0x00	0x00
---	0e00af	PBX dial tone ON time min. value	PBX dial tone ON time min. value (unit: 20ms, HEX)								0x00	0x00	0x00
---	0e00b0	PBX dial tone OFF time max. value	PBX dial tone OFF time max. value (unit: 20 ms, HEX)								0x00	0x00	0x00
---	0e00b1	PBX dial tone OFF time min. value	PBX dial tone OFF time min. value (unit: 20 ms, HEX)								0x00	0x00	0x00
---	0e00b2	PBX dial tone tone waiting time	PBX dial tone waiting time or pre-pause time (unit: 1 sec, HEX)								0x03	0x03	0x03
---	0e00b3	PBX dial tone instantaneous break detection time	Instantaneous shutdown time (unit: 20 ms, HEX) or tone detection frequency (times, HEX)								0x00	0x00	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e00b4	PBX dial tone frequency synchronization parameter	(HEX)								0x03	0x03	0x03
---	0e00b5	1st dial tone detection frequency upper limits	1st dial tone detection frequency upper limit (unit: 10 Hz, HEX)								0x31	0x35	0x00
---	0e00b6	1st dial tone detection frequency lower limits	1st dial tone detection frequency lower limit (unit: 10 Hz, HEX)								0x1f	0x23	0x00
---	0e00b7	1st dial tone tone detection time	1st dial tone detection time or ON time max. value (unit: 20 ms, HEX)								0x32	0x32	0x00
---	0e00b8	1st dial tone ON time min. value	1st dial tone ON time min. value (unit: 20 ms, HEX)								0x00	0x00	0x00
---	0e00b9	1st dial tone OFF time max. value	1st dial tone OFF time max. value (unit: 20 ms, HEX)								0x00	0x00	0x00
---	0e00ba	1st dial tone OFF time min. value	1st dial tone OFF time min. value (unit: 20 ms, HEX)								0x00	0x00	0x00
---	0e00bb	1st dial tone tone waiting time	1st dial tone waiting time or pre-pause time (unit: 1 sec, HEX)								0x03	0x03	0x04
---	0e00bc	1st dial tone instantaneous break detection time	Instantaneous shutdown detection time (unit: 20 ms, HEX) or tone detection frequency (times, HEX)								0x00	0x00	0x00
---	0e00bd	1st dial tone frequency synchronization parameter	(HEX)								0x03	0x03	0x03
---	0e00be	2nd dial tone detection frequency upper limits	2nd dial tone detection frequency upper limit (unit: 10 Hz, HEX)								0x31	0x00	0x00
---	0e00bf	2nd dial tone detection frequency lower limits	2nd dial tone detection frequency lower limit (unit: 10 Hz, HEX)								0x1f	0x00	0x00
---	0e00c0	2nd dial tone tone detection time	2nd dial tone detection time or ON time max. value (unit: 20 ms, HEX)								0x08	0x00	0x00
---	0e00c1	2nd dial tone ON time min. value	2nd dial tone ON time min. value (20 ms, HEX)								0x02	0x00	0x00
---	0e00c2	2nd dial tone OFF time max. value	2nd dial tone OFF time max. value (unit: 20 ms, HEX)								0x0a	0x00	0x00
---	0e00c3	2nd dial tone OFF time min. value	2nd dial tone OFF time min. value (20 ms, HEX)								0x04	0x00	0x00
---	0e00c4	2nd dial tone tone waiting time	2nd dial tone waiting time or pre-pause time (unit: 1 sec, HEX)								0x03	0x03	0x03
---	0e00c5	2nd dial tone instantaneous break detection time	Instantaneous shutdown detection time (unit: 20 ms, HEX) or tone detection frequency (times, HEX)								0x03	0x00	0x00
---	0e00c6	2nd dial tone frequency synchronization parameter	(HEX)								0x03	0x03	0x03
---	0e00c7	3rd dial tone detection frequency upper limits	3rd dial tone detection frequency upper limit (unit: 10 Hz, HEX)								0x00	0x00	0x00
---	0e00c8	3rd dial tone detection frequency lower limits	3rd dial tone detection frequency lower limit (unit: 10 Hz, HEX)								0x00	0x00	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e00c9	3rd dial tone frequency synchronization parameter	(HEX)								0xff	0xff	0xff
---	0e00ca	Busy tone detection frequency upper limits	Detection frequency upper limit (unit: 10 Hz, HEX)								0x31	0x00	0x00
---	0e00cb	Busy tone detection frequency lower limits	Detection frequency lower limit (unit: 10 Hz, HEX)								0x1f	0x00	0x00
---	0e00cc	Busy tone ON time max. value	Busy tone ON time max. value (unit: 20 ms, HEX)								0x1e	0x00	0x00
---	0e00cd	Busy tone ON time min. value	Busy tone ON time min. value (unit: 20 ms, HEX)								0x14	0x00	0x00
---	0e00ce	Busy tone OFF time max. value	Busy tone OFF time max. value (unit: 20 ms, HEX)								0x1e	0x00	0x00
---	0e00cf	Busy tone OFF time min. value	Busy tone OFF time min. value (unit: 20 ms, HEX)								0x14	0x00	0x00
---	0e00d0	Busy tone									0x00	0x00	0x00
---	0e00d1	No. of busy tone detection	No. of tone detection (Times., HEX)								0x00	0x00	0x00
---	0e00d2	Busy tone frequency synchronization parameter	(HEX)								0x03	0x03	0x03
---	0e00d3	Ringer detection frequency upper limits	Ringer detection frequency upper limit (unit: 1 Hz, HEX)								0x46	0x46	0x46
---	0e00d4	Ringer detection frequency lower limits	Ringer detection frequency lower limit (unit: 1 Hz, HEX)								0x0c	0x0c	0x0c
---	0e00d5	Ringer ON time max. value	Ringer ON time max. value (unit: 20 ms, HEX)								0x00	0x00	0x00
---	0e00d6	Ringer ON time min. value	Ringer ON time min. value (unit: 20 ms, HEX)								0x0a	0x0a	0x08
---	0e00d7	Ringer OFF time max. value	Ringer OFF time max. value (unit: 100 ms, HEX)								0x3c	0x3c	0x46
Utility Mode Special Setting	0e00d8	Ringer OFF time max. value	Ringer OFF time min. value (unit: 100 ms, HEX)								0x02	0x00	0x00
---	0e00d9	PB dial signal transmission time	PB dial signal transmission time (unit: 5 ms, HEX)								0x15	0x19	0x15
---	0e00da	PB dial inter digit pause	PB dial inter digit pause time (unit: 5 ms, HEX)								0x11	0x15	0x11
---	0e00db	10pps pulse dial break rate	10pps pulse dial break rate (%, HEX)								0x44	0x3d	0x3d
---	0e00dc	10pps pulse dial start time	10pps pulse dial start time (unit: 10 ms, HEX)								0x0c	0x0c	0x0c
---	0e00dd	10pps pulse dial blocking time	10pps pulse dial blocking time (unit: 10 ms, HEX)								0x0c	0x0c	0x0c

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e00de	10pps pulse dial inter digit pause	10pps pulse dial inter digit pause (unit: 10 ms, HEX)								0x50	0x50	0x46
---	0e00df	20pps pulse dial break rate	20pps pulse dial brake rate (%, HEX)								0x44	0x3d	0x3d
---	0e00e0	20pps pulse dial start time	20pps pulse dial start time (unit: 10 ms, HEX)								0x0c	0x0c	0x0c
---	0e00e1	20pps pulse dial blocking time	20pps pulse dial blocking time (unit: 10 ms, HEX)								0x0c	0x0c	0x0c
---	0e00e2	20pps pulse dial inter digit pause	20pps pulse dial inter digit pause (unit: 10 ms, HEX)								0x41	0x28	0x44
---	0e00e3	Flash dial relay ON time	Flash dial relay ON time (unit: 10 ms, HEX)								0x1e	0x1e	0x1e
---	0e00e4	Reserved											
Utility Mode Special Setting	0e00e5	PB signal transmission level	PB signal transmission level (unit: 1 dBm, HEX)								0x0a	0x0a	0x06
Utility Mode Special Setting	0e00e6	PB signal level difference (HL)	PB level difference (HL) (unit: 0.5 dBm, HEX)								0x04	0x04	0x04
---	0e00e7	DcLoop integration time when CML is set to OFF	DCLOOP integration time at CML relay OFF (unit: 5 ms, HEX)								0x50	0x50	0x50
---	0e00e8	DcLoop integration time when CML is set to ON	DCLOOP integration time at CML relay ON (unit: 5 ms, HEX)								0x10	0x10	0x10
Utility Mode Special Setting (0 - 2)	0e00e9	Pause time						Pause time (unit: sec, HEX)			0x01	0x01	0x01
Utility Mode Special Setting (6,7)	0e00ea	DCLOOP check mode	DC-LOOP check 00: No 01:ph.A only 10: Always								0x00	0x00	0x00
---	0e00eb	DCLOOP waiting time	DCLOOP waiting time (unit: 100 ms, HEX)								0x00	0x00	0x00
---	0e00ec	DCLOOP instantaneous shutdown allowed time (ph.A)	DCLOOP instantaneous shutdown allowable time (unit: 10 ms, HEX) (at the time of calling, CML ON to end of dialing)								0x00	0x00	0x00
---	0e00ed	DCLOOP instantaneous shutdown allowed time (ph.B)	DCLOOP instantaneous shutdown allowable time (unit: 10ms, HEX) (after completion of dialing and after CML ON at the time of reception)								0x00	0x00	0x00
Utility Mode (0,1,6) Utility Mode Special Setting (4,5)	0e00ee	Dial mode RING DET mode			RING detection mode 01:No. of times 10:TIme		Pulse format 00: General 01:SW 10:NO		Dialing method 00:PB 01:10pps 10:20pps 11:16pps		0x12	0x10	0x10
---	0e00ef	1st/2nd DT detection parameter					At 2nd DT detection DP dialing only			1st DT2 type	0x00	0x00	0x00
Utility Mode Special Setting (4,5)	0e00f0	Tone detection			1300Hz 0: No 1: Yes	BusyTone 0: No 1: Yes	PBX DT 0: No 1: Yes	3rd DT 0: No 1: Yes	2nd DT 0: No 1: Yes	1st DT 0: No 1: Yes	0x11	0x01	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode Special Setting	0e00f1	No. of busy tone detection	Busy tone detection frequency (HEX)								0x02	0x00	0x00
Utility Mode	0e00f2	No. of RING detection	Ring detection frequency (times, HEX)								0x02	0x02	0x02
Utility Mode Special Setting	0e00f3	RING detection time	Ring detection time (sec, HEX)								0x06	0x06	0x06
Utility Mode Special Setting	0e00f4	Time to wait for a response from a remote station	Time waiting response from remote station after calling (unit: sec, HEX)								0x37	0x37	0x37
Utility Mode (4)	0e00f5	Answering machine function	Answering machine CNG detection time (unit: 10sec, HEX) (1 - 7)			Answer mode 0:OFF 1:ON	Answering machine DCLOOP detection time (unit: 5sec, HEX) (1 - 15)				0x64	0x64	0x64
Utility Mode	0e00f6 - 0e00f7	Remote reception password	ASCII[2]								0x2a 0x20	0x2a 0x20	0x2a 0x20
---	0e00f8	RBT transmission time	RingBackTone signal transmission time (unit: 1000 ms, HEX)								0x14	0x14	0x14
---	0e00f9	CAR signal ON time max. value	CAR ON time max. value (unit: 20 ms, HEX)								0x28	0x00	0x00
---	0e00fa	CAR signal ON time min. value	CAR ON time min. value (unit: 20 ms, HEX)								0x0a	0x00	0x00
---	0e00fb	CAR signal OFF time max. value	CAR OFF time max. value (unit: 20 ms, HEX)								0x28	0x00	0x00
---	0e00fc	CAR signal OFF time min. value	CAR OFF time min. value (unit: 20 ms, HEX)								0x0a	0x00	0x00
---	0e00fd	CAR signal detection frequency	CAR (information receiving terminal start signal) detection frequency (times, HEX)								0x01	0x00	0x00
---	0e00fe	Caller ID signal waiting time	ID waiting time after Caller ID/DIAL IN primary response (unit 1000 ms, HEX)								0x05	0x00	0x00
---	0e00ff	Remote reception password entry waiting time	Password signal (DTMF) detection waiting time (unit: 100 ms, HEX)								0x14	0x14	0x14
---	0e0100	Normal/number display automatic line determination function	Automatic judgment function 0:OFF 1:ON				V23 signal detection waiting time when judged (x1 sec, HEX)				0x83	0x00	0x00
Utility Mode (0 - 6)	0e0101	Monitor speaker	PB tone monitoring at the time of off-hook	Monitor speaker in communication 00: OFF 11: ON		Speaker volume (HEX)(0-1F)					0x10	0x10	0x10
Utility Mode	0e0102 - 0e0115	Numeric ID [20]	ASCII[20] When ID is less than 20 digits, justify to the left and insert space at the top (no NULL terminator).								All 0x20	All 0x20	All 0x20
Utility Mode (0 - 3)	0e0116	PBX connection mode			No. of digits of outside line access with PBX connected 00:Specified by P		PBX call 0000 - 1001: keypad 1011: #Call 1100: *Call 1101: Reserved 1110: Flash call 1111:PBX unconnected				0x0f	0x0f	0x0f
Utility Mode (5)	0e0117	Protocol monitor			TEL/FAX switching RBT monitor sound 0:OFF 1:ON	Inhibitthe speaker to sound when off-hook button is pressed 1: Inhibit 0: Not inhibit					0x00	0x00	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode (0 - 4)	0e0118	Reception function			Name display 0: Not inhibit 1: Inhibit	Compulsory Memory RX 0: Not inhibit 1: Inhibit	No. of caller / name display (number display / (display of sub-scribers for trace-back system)) 0: Not inhibit 1: Inhibit	Closed-area com-munication 0: Not inhibit 1: Inhibit	Remote RX 0: Not inhibit 1: Inhibit	DialIn 0: Not inhibit 1: Inhibit	0x3f	0x3f	0x3f
Utility Mode	0e0119	PBX outside line access code 1(BCD)	1st digit				2nd digit				0xff	0xff	0xff
Utility Mode	0e011a	PBX outside line access code 2(BCD)	3rd digit				4th digit				0xff	0xff	0xff
---	0e011b	Limit of long size reception								Limit of long size reception 0: Limit 1: Unlimited	0x00	0x00	0x00
---	0e011c	Max. size of long original received (In the case of 400 dpi or less)	When the resolution for reception is 400 dpi or less, the size of a long original received that is regarded as an error (The maximum size is a decimal value x 10 mm. 0 is regarded as 1000 mm.)								0x64	0x64	0x64
---	0e011d	Max. size of long original received (In the case of 600 dpi or less)	When the resolution for reception is 600 dpi, the size of a long original received that is regarded as an error (The maximum length is a decimal value x 10 mm. 0 is regarded as the same as a value less than 400 dpi above.)								0x64 (0x2E for bizhub 500/ 420)	0x64 (0x2E for bizhub 500/ 420)	0x64 (0x2E for bizhub 500/ 420)

For sub line (Address: 0e01a0 - 0e022d)

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode Special Setting	0e01a0	Transmission ATT	Tone signal/FSK transmission ATT (HEX) 1 dBm every (0 - -15dBm)				High-speed signal transmission ATT (HEX) 1 dBm every (0 - -15dBm)				0xAA	0xAA	0x88
Utility Mode Special Setting (0 - 3)	0e01a1	CED Transmission ATT					CED/ANS transmission ATT (HEX) 1 dBm every (0 - -15dBm)				0x0A	0x0A	0x08
Utility Mode Special Setting (0,1)	0e01a2	CD/SED ON level							CD/SED ON level [dBm] 00:-33, 01:-38, 10:-43, 11:-48		0x03	0x03	0x03
Utility Mode Special Setting (4,5)	0e01a3	Transmission cable amplitude EQL			Transmission cable EQL0 00:0dB, 01:4dB1, 10:8dB, 11:12dB						0x00	0x00	0x00
Utility Mode Special Setting (4,5)	0e01a4	Reception cable amplitude EQL			Reception cable EQL 00:0dB, 01:4dB, 10:8dB, 11:12dB						0x00	0x00	0x00
Utility Mode(4,5)	0e01a5	TEL/FAX switching			TEL/FAX switching mode 00: No 10: Normal (RBT transmission)		Unused				0x00	0x00	0x00
Utility Mode Special Setting (0 - 3,5 - 7)	0e01a6	Ring Back Tone parameter	RBT form 000:No, 001:Japan, 010:US, 011:UK, 100:Germany, 101 - 111:Others			CED transmitted upon TEL/FAX switching	RBT transmission level (HEX) 0 - -15 dBm				0x2A	0x4A	0x68

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode Special Setting (6,7)	0e01a7	Operated in international mode	DIS waiting frequency 0:Always once, 1:Twice in overseas communication	Overseas communication 0:No, 1:Yes	N.A						0x40	0x40	0x40
Utility Mode Special Setting (0,1,3,4)	0e01a8	Starting speed in international mode (V29 modem)	N.A			9600/V.29bps	7200/V.29bps	N.A	4800/V27bps	2400/V27bps	0x02	0x02	0x02
Utility Mode Special Setting (4 - 7)	0e01a9	Starting speed in international mode (V17 or V33 modem)	14400bps/v.17	12000bps/v.17	9600bps/v.17	7200bps/v.17			N.A		0x10	0x10	0x10
Utility Mode Special Setting	0e01aa	Starting speed in international mode (V34)	33600bps/V.34	31200bps/V.34	28800bps/V.34	26400bps/V.34	24000bps/V.34	21600bps/V.34	19200bps/V.34	16800bps/V.34	0x20	0x20	0x20
---	0e01ab	CD OFF timer	CD OFF timer (unit:100 ms, HEX)								0x14	0x14	0x14
---	0e01ac	CD ON integration time	CD ON integration time (unit:100 ms, HEX)								0x06	0x06	0x06
Utility Mode Special Setting (0 - 3,7)	0e01ad	Symbol speed maximum allowable value	V34 control ch data rate 0:1200, 1:2400	Reserved		Max. allowable symbol speed 0000:2400, 0001:Reserved, 0010:2800 0011:3000, 0100:3200, 0101:3429					0x05	0x05	0x05
Utility Mode Special Setting	0e01ae	Symbol rate selection criteria	Attenuation distortion property (-6dB - +6dB) 0:-6, 1:-5, 2:-4, 3:-3, 4:-2, 5:-1, 6:0, 7:+1, 8:+2, 9:+3, A:+4, B:+5, C:+6			Band end S/N (-6dB - +6dB) 0:-6, 1:-5, 2:-4, 3:-3, 4:-2, 5:-1, 6:0, 7:+1, 8:+2, 9:+3, A:+4, B:+5, C:+6					0x66	0x66	0x66
Utility Mode Special Setting (0 - 3)	0e01af	Primary channel data rate selection criteria	V.34 reception gain correction (-4.0dB - +3.5dB) 0:0, 1:+0.5, 2:+1.0, 3:+1.5, 4:+2.0, 5:+2.5, 6:+3.0, 7:+3.5, 8:-4.0, 9:-3.5, A:-3.0, B:-2.5, C:-2.0, D:-1.5, E:-1.0, F:-0.5			Primary channel data rate selection criteria (-8dB - +7dB) 0:-8, 1:-7, 2:-6, 3:-5, 4:-4, 5:-3, 6:-2, 7:-1, 8:0, 9:+1, A:+2, B:+3, C:+4, D:+5, E:+6, F:+7					0x08	0x08	0x08
---	0e01b0	V34 primary channel fall back	No. of fall back frame errors (Hex)								0x03	0x03	0x03
---	0e01b1	V34 control channel fall back	Fall back EQMVAL value (HEX)								0x40	0x40	0x40
---	0e01b2	V34 OFF reception – V34 OFF time after error	Timer value after V34 reception error to reset the V34 OFF reception (min., HEX) (Enabled only when the transmission side cannot be specified)								0x0a	0x0a	0x0a
---	0e01b3	V34 OFF reception – No. of successful consecutive V17 reception times to reset V34 OFF	No. of successful consecutive V17 reception times to reset V34 OFF reception after V34 reception error (No. of times, HEX) (Enabled only when the transmission side can be specified with Caller ID)								0x0a	0x0a	0x0a
---	0e01b4	V34 OFF reception – Function switch (disabled)	V34 OFF function at manual reception 0:Enabled, 1:Disabled						V34 OFF reset mode = No. of successful consecutive V17 reception times (ID specified) 0:Enabled, 1:Disabled	V34 OFF reset mode = time (ID cannot be specified) 0:Enabled, 1:Disabled	0x00	0x02	0x02
---	0e01b5	JBIG parameter							Use of following FP JBIG option LO size at reduction 0:No, 1:Yes	JBIG optional L0 capacity 0:No, 1:Yes	0x01	0x01	0x01

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e01b6	JBIG L0 size	JBIG optional LO size used for reduction (hex) (setting rangeF0x01 - 0xffffffff [0] = HH, [1] = HL, [2] = LH, [3] = LL								0x00 0x00 0x00 0x80	0x00 0x00 0x00 0x80	0x00 0x00 0x00 0x80
---	0e01ba	JBIG OFF reception - Function switch (disabled)							JBIG OFF function at A3 high-definition reception (DIS re-transmission) 0:OFF, 1:ON	JBIG OFF function after JBIG reception error 0:Enabled, 1:Disabled	0x00	0x00	0x00
---	0e01bb	JBIG OFF reception – JBIG OFF time after error	Timer value after JBIG reception error to reset JBIG OFF reception (min., HEX) (10 min. in case of 0)								0x0a	0x0a	0x0a
---	0e01bc	PBX dial tone detection frequency upper limit	PBX dial tone detection frequency upper limit (unit:10 Hz, HEX)								0x31	0x00	0x00
---	0e01bd	PBX dial tone detection frequency lower limit	PBX dial tone detection frequency lower limit (unit:10 Hz, HEX)								0x1f	0x00	0x00
---	0e01be	PBX dial tone tone detection time	PBX dial tone detection time or max. ON time value (unit:20 ms, HEX)								0x32	0x00	0x00
---	0e01bf	PBX dial tone ON time min. value	PBX dial tone ON time min. value (unit:20 ms, HEX)								0x00	0x00	0x00
---	0e01c0	PBX dial tone OFF time max. value	PBX dial tone OFF time max. value (unit:20 ms, HEX)								0x00	0x00	0x00
---	0e01c1	PBX dial tone OFF time min. value	PBX dial tone OFF time min. value (unit:20 ms, HEX)								0x00	0x00	0x00
---	0e01c2	PBX dial tone tone waiting time	PBX dial tone waiting time or pre-pause time (unit:1 sec, HEX)								0x03	0x03	0x03
---	0e01c3	PBX dial tone instantaneous break detection time	Instantaneous break detection time (unit:20 ms, HEX) or tone detection frequency (times, HEX)								0x00	0x00	0x00
---	0e01c4	PBX dial tone frequency synchronization parameter	(HEX)								0x03	0x03	0x03
---	0e01c5	1st dial tone detection frequency upper limit	1st dial tone detection frequency upper limit (unit:10 Hz, HEX)								0x31	0x35	0x00
---	0e01c6	1st dial tone detection frequency lower limit	1st dial tone detection frequency lower limit (unit:10 Hz, HEX)								0x1f	0x23	0x00
---	0e01c7	1st dial tone tone detection time	1st dial tone detection time or max. ON time value (unit:20 ms, HEX)								0x32	0x32	0x00
---	0e01c8	1st dial tone ON time min. value	1st dial tone ON time min. value (unit:20 ms, HEX)								0x00	0x00	0x00
---	0e01c9	1st dial tone OFF time max. value	1st dial tone OFF time max. value (unit:20 ms, HEX)								0x00	0x00	0x00
---	0e01ca	1st dial tone OFF time min. value	1st dial tone OFF time min. value (unit:20 ms, HEX)								0x00	0x00	0x00
---	0e01cb	1st dial tone tone waiting time	1st dial tone waiting time or pre-pause time (unit:1 sec, HEX)								0x03	0x03	0x04

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e01cc	1st dial tone instantaneous break detection time	Instantaneous break detection time (unit:20 ms, HEX) or tone detection frequency (times, HEX)								0x00	0x00	0x00
---	0e01cd	1st dial tone frequency synchronization parameter	(HEX)								0x03	0x03	0x03
---	0e01ce	2nd dial tone detection frequency upper limit	2nd dial tone detection frequency upper limit (unit:10 Hz, HEX)								0x31	0x00	0x00
---	0e01cf	2nd dial tone detection frequency lower limit	2nd dial tone detection frequency lower limit (unit:10 Hz, HEX)								0x1f	0x00	0x00
---	0e01d0	2nd dial tone tone detection time	2nd dial tone detection time or max. ON time value (unit:20 ms, HEX)								0x08	0x00	0x00
---	0e01d1	2nd dial tone ON time min. value	2nd dial tone ON time min. value (unit:20 ms, HEX)								0x02	0x00	0x00
---	0e01d2	2nd dial tone OFF time max. value	2nd dial tone OFF time max. value (unit:20 ms, HEX)								0x0a	0x00	0x00
---	0e01d3	2nd dial tone OFF time min. value	2nd dial tone OFF time min. value (unit:20 ms, HEX)								0x04	0x00	0x00
---	0e01d4	2nd dial tone tone waiting time	2nd dial tone waiting time or pre-pause time (unit:1 sec, HEX)								0x03	0x03	0x03
---	0e01d5	2nd dial tone instantaneous break detection time	Instantaneous break detection time (unit:20 ms, HEX) or tone detection frequency (times, HEX)								0x03	0x00	0x00
---	0e01d6	2nd dial tone frequency synchronization parameter	(HEX)								0x03	0x03	0x03
---	0e01d7	3rd dial tone detection frequency upper limit	3rd dial tone detection frequency upper limit (unit:10 Hz, HEX)								0x00	0x00	0x00
---	0e01d8	3rd dial tone detection frequency lower limit	3rd dial tone detection frequency lower limit (unit:10 Hz, HEX)								0x00	0x00	0x00
---	0e01d9	3rd dial tone frequency synchronization parameter	(HEX)								0xff	0xff	0xff
---	0e01da	Busy tone detection frequency upper limit	Detection frequency upper limit (unit:10 Hz, HEX)								0x31	0x00	0x00
---	0e01db	Busy tone detection frequency lower limit	Detection frequency lower limit (unit:10 Hz, HEX)								0x1f	0x00	0x00
---	0e01dc	Busy tone ON time max. value	Busy tone ON time max. value (unit:20 ms, HEX)								0x1e	0x00	0x00
---	0e01dd	Busy tone ON time min. value	Busy tone ON time min. value (unit:20 ms, HEX)								0x14	0x00	0x00
---	0e01de	Busy tone OFF time max. value	Busy tone OFF time max. value (unit:20 ms, HEX)								0x1e	0x00	0x00
---	0e01df	Busy tone OFF time min. value	Busy tone OFF time min. value (unit:20 ms, HEX)								0x14	0x00	0x00
---	0e01e0	Busy tone	Unused								0x00	0x00	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e01e2	Busy tone frequency synchronization parameter	(HEX)								0x03	0x03	0x03
---	0e01e3	Ringer detection frequency upper limit	Ringer detection frequency upper limit (unit:1 Hz, HEX)								0x46	0x46	0x46
---	0e01e4	Ringer detection frequency lower limit	Ringer detection frequency lower limit (unit:1 Hz, HEX)								0x0c	0x0c	0x0c
---	0e01e5	Ringer ON time max. value	Ringer ON time max. value (unit:20 ms, HEX)								0x00	0x00	0x00
---	0e01e6	Ringer ON time min. value	Ringer ON time min. value (unit:20 ms, HEX)								0x0a	0x0a	0x08
---	0e01e7	Ringer OFF time max. value	Ringer OFF time max. value (unit:100 ms, HEX)								0x3c	0x3c	0x46
Utility Mode Special Setting	0e01e8	Ringer OFF time min. value	Ringer OFF time min. value (unit:100 ms, HEX)								0x02	0x00	0x00
---	0e01e9	PB dial signal transmission time	PB dial signal transmission time (unit:5 ms, HEX)								0x15	0x19	0x15
---	0e01ea	PB dial inter-digit pause	PB dial inter-digit pause time (unit:5 ms, HEX)								0x11	0x15	0x11
---	0e01eb	10 pps pulse dial break rate	10 pps pulse dial break rate (%, HEX)								0x44	0x3d	0x3d
---	0e01ec	10 pps pulse dial start time	10 pps pulse dial start time (unit:10 ms, HEX)								0x0c	0x0c	0x0c
---	0e01ed	10 pps pulse dial blocking time	10 pps pulse dial blocking time (unit:10 ms, HEX)								0x0c	0x0c	0x0c
---	0e01ee	10 pps pulse dial inter-digit pause	10 pps pulse dial inter digit pause (unit:10 ms, HEX)								0x50	0x50	0x46
---	0e01ef	20 pps pulse dial break rate	20 pps pulse dial break rate (%, HEX)								0x44	0x3d	0x3d
---	0e01f0	20 pps pulse dial start time	20 pps pulse dial start time (unit:10 ms, HEX)								0x0c	0x0c	0x0c
---	0e01f1	20 pps pulse dial blocking time	20 pps pulse dial blocking time (unit:10 ms, HEX)								0x0c	0x0c	0x0c
---	0e01f2	20 pps pulse dial inter-digit pause	20 pps pulse dial inter-digit pause (unit:10 ms, HEX)								0x41	0x28	0x44
---	0e01f3	Flash calling relay ON time	Flash calling relay ON time (unit:10 ms, HEX)								0x1e	0x1e	0x1e
---	0e01f4	Reserved											
Utility Mode Special Setting	0e01f5	PB signal transmission level	PB signal transmission level (unit:1 dBm, HEX)								0x0a	0x0a	0x06
Utility Mode Special Setting	0e01f6	PB signal level difference (HL)	PB signal level difference (HL) (unit:0.5 dBm, HEX)								0x04	0x04	0x04

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e01f7	DCLOOP integration time at CML OFF	DCLOOP integration time at CML relay OFF (unit:5 ms, HEX)								0x50	0x50	0x50
---	0e01f8	DCLOOP integration time at CML ON	DCLOOP integration time at CML relay ON (unit:5 ms, HEX)								0x10	0x10	0x10
Utility Mode Special Setting (0 - 2)	0e01f9	Pause time						Pause time (unit:sec, HEX)			0x01	0x01	0x01
Utility Mode Special Setting (6, 7)	0e01fa	DC-LOOP check mode	DC-LOOP check 00:No, 01:ph.A only, 10:Always								0x00	0x00	0x00
---	0e01fb	DC-LOOP waiting time	DC-LOOP waiting time (unit:100 ms, HEX)								0x00	0x00	0x00
---	0e01fc	DC-LOOP instantaneous break allowable time (ph.A)	DC-LOOP instantaneous break allowable time (unit:10 ms, HEX) (at the time of calling, CML ON to end of dialing)								0x00	0x00	0x00
---	0e01fd	DC-LOOP instantaneous break allowable time (ph.B)	DC-LOOP instantaneous break allowable time (unit:10ms, HEX) (after completion of dialing and after CML ON at the time of reception)								0x00	0x00	0x00
Utility Mode (0,1) Utility Mode Special Setting (4,5)	0e01fe	Dial mode RING DET mode	Reserved	Reserved	RING detection mode 01:No. of times, 10:Time		Pulse format 00:General, 01:SW, 10:NO		Dialing method 00:PB, 01:10pps, 10:20pps, 11:16pps		0x12	0x10	0x10
---	0e01ff	1st/2nd DT detection parameter					At 2nd DT detection DP dialing only			1st DT2 type	0x00	0x00	0x00
Utility Mode Special Setting (4,5)	0e0200	Tone detection			1300Hz 0:No, 1:Yes	BusyTone 0:No, 1:Yes	PBX DT 0:No, 1:Yes	3rd Dt 0:No, 1:Yes	2nd DT 0:No, 1:Yes	1st DT 0:No, 1:Yes	0x11	0x01	0x00
Utility Mode Special Setting	0e0201	No. of busy tone detection times	No. of busy tone detection times (HEX)								0x02	0x00	0x00
Utility Mode	0e0202	No. of RING detection times	No. of RING detection times (times, HEX)								0x02	0x02	0x02
Utility Mode Special Setting Special Setting	0e0203	RING detection time	Ring detection time (sec, HEX)								0x06	0x06	0x06
Utility Mode Special Setting	0e0204	Remote station response waiting time	Remote station response waiting time at calling (unit:sec, HEX)								0x37	0x37	0x37
Utility Mode (4)	0e0205	Answering machine function	Answering machine CNG detection time (unit:10 sec, HEX) (1-7)			Answer mode 0:OFF, 1:ON	Answering machine DC-LOOP detection time (unit:5 sec, HEX) (1-15)				0x64	0x64	0x64
Utility Mode	0e0206	Remote reception password	ASCII[2]								0x2a0x20	0x2a0x20	0x2a0x20
---	0e0208	RBT transmission time	RingBackTone signal transmission time (unit:1000 ms, HEX)								0x14	0x14	0x14
---	0e0209	CAR signal ON time max. value	CAR ON time max. value (unit:20 ms, HEX)								0x28	0x00	0x00
---	0e020a	CAR signal ON time min. value	CAR ON time min. value (unit:20 ms, HEX)								0x0a	0x00	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	0e020b	CAR signal OFF time max. value	CAR OFF time max. value (unit:20 ms, HEX)								0x28	0x00	0x00
---	0e020c	CAR signal OFF time min. value	CAR OFF time min. value (unit:20 ms, HEX)								0x0a	0x00	0x00
---	0e020d	No. of CAR signal detection times	No. of CAR (information reception terminal start signal) detection times (times, HEX)								0x01	0x00	0x00
---	0e020e	Caller ID signal waiting time	ID waiting time after Caller ID/DIAL IN primary response (unit 1000 ms, HEX)								0x05	0x00	0x00
---	0e020f	Remote reception password entry waiting time	Password signal (DTMF) detection waiting time (unit:100 ms, HEX)								0x14	0x14	0x14
---	0e0210	Normal/number display automatic line distinction function	Automatic distinction function 0:OFF, 1:ON				V23 signal detection waiting time when distinguished (x1 sec, HEX)				0x83	0x00	0x00
Utility Mode (0 - 6)	0e0211	Monitor speaker	PB tone monitor at off-hook	Monitor speaker in communication 00:OFF, 01:To DIS 10:To DIS + At RBT transmission, 11:ON		Speaker volume (HEX) (0-1F)					0x10	0x10	0x10
Utility Mode	0e0212	Numeric ID [20]	ASCII[20] When ID is less than 20 digits, left-justify and insert a space at the head.(No NULL terminator)								All 0x20	All 0x20	All 0x20
Utility Mode (0 - 3)	0e0226	PBX connection mode			No. of digits of outside line access with PBX connected 00:Specified by P		BX call 0 – 9:Ten-key, B:*Call, C:*call, D: Reserved E:Flash call, F:PBX unconnected				0x0f	0x0f	0x0f
Utility Mode (5)	0e0227	Protocol monitor			TEL/FAX switching RBT monitor sound 0:OFF, 1:ON	Speaker sounding disabled when off-hook button is pressed 1:Disabled, 0:Not disabled					0x00	0x00	0x00
Utility Mode (0 - 4)	0e0228	Reception function (disabled)			Remote station name display (name display) (variable) 0:Enabled, 1:Disabled	Reserved (fixed at 1)	Remote station No./name display (variable) 0:Enabled, 1:Disabled	Closed Network RX (variable) 0: Valid 1: Prohibited Be sure to set the same value as that for the main line.(Impossible of each setting)	Reserved (Fixed at 1)	Reserved (Fixed at 1)	0x3f	0x3f	0x3f
Utility Mode	0e0229	PBX outside line access code 1 (BCD)	1st digit				2nd digit				0xff	0xff	0xff
Utility Mode	0e022a	PBX outside line access code 2 (BCD)	3rd digit				4th digit				0xff	0xff	0xff
---	0e022b	Limit of long size reception								Limit of long size reception 0: Limit 1: Unlimited	0x00	0x00	0x00
---	0e022c	Max. size of long original received (In the case of 400 dpi or less)	When the resolution for reception is 400 dpi or less, the size of a long original received that is regarded as an error (The maximum size is a decimal value x 10 mm. 0 is regarded as 1000 mm.)								0x64	0x64	0x64

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North Amer-ica	Europe
Utility Mode	0e022d	Max. size of long original received (In the case of 600 dpi or less)	When the resolution for reception is 600 dpi, the size of a long original received that is regarded as an error (The maximum length is a decimal value x 10 mm. 0 is regarded as the same as a value less than 400 dpi above.)								0x64 (0x2E for bizhub 500/420)	0x64 (0x2E for bizhub 500/420)	0x64 (0x2E for bizhub 500/420)

For main line

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North Amer-ica	Europe
	0f0000	Reception main scan line resolution ability[0]	400dpi	300dpi	200dpi		16pels/mm		8pels/mm		0xaa	0xaa	0xaa
	0f0001	Reception main scan line resolution ability[0]								600dpi	0x01	0x01	0x01
	0f0002	Reception sub scanning resolution ability[0]	400dpi	300dpi	200dpi	100dpi	15.4 l/mm		7.7 l/mm	3.85 l/mm	0xbb	0xbb	0xbb
	0f0003	Reception sub scanning resolution ability[1]								600dpi	0x01	0x01	0x01
	0f0004	Reception coding method ability			(JPEG)	JBIG	MMR	MR	MH	THRU	0x1f	0x1f	0x1f
	0f0005	Received document width ability			(Legal)	(Letter)	A3	B4	A4	(A5)	0x0e	0x0e	0x0e
	0f0006	Received document length ability		Unlimited	(Legal)	(Letter)		B4	A4	(A5)	0x46	0x46	0x46
	0f0007	Reception speed ability[0]				V.29-96	V.29-72		V.27-48	V.27-24	0x1b	0x1b	0x1b
	0f0008	Reception speed ability[1]	V.17-144	V.17-120	V.17-96	V.17-72	V.33-144	V.33-120	(TCM-96)	(TCM-72)	0xfc	0xfc	0xfc
	0f0009	Reception speed ability[2]	V.34-192	V.34-168	V.34-144	V.34-120	V.34-96	V.34-72	V.34-48	V.34-24	0xff	0xff	0xff
	0f000a	Reception speed ability[3]			V.34-336	V.34-312	V.34-288	V.34-264	V.34-240	V.34-216	0x3f	0x3f	0x3f
	0f000b	Reception MSLT ability	T3.85 or 200*100dpi (0-40) ms unit								0x05	0x05	0x05
	0f000c	Reception MSLT ability	T7.7 or 200*200dpi (0-40) ms unit								0x05	0x05	0x05
	0f000d	Reception MSLT ability	T11.55 or 300*300dpi (0-40) ms unit								0x05	0x05	0x05
	0f000e	Reception MSLT ability	T15.4 or 400*400dpi or 600*600dpi (0-40) ms unit								0x05	0x05	0x05
	0f000f	Reception ECM ability								ECM reception capability 0:OFF 1:ON	0x01	0x01	0x01

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North Amer-ica	Europe
	0f0010	Reception protocol ability			FAX-CSRC	V8/V34	DIAG			G3S	0x39	0x39	0x39
	0f0011	Reception option frame ability				(BFT)	(BTM)	PWD	(SEP)	SUB	0x07	0x07	0x07
	0f0012 - 0f0019	Reserved area											

For sab line

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North Amer-ica	Europe
	0f0020	Reception main scan resolution capacity [0]	400dpi	300dpi	200dpi	Free	16pels/mm	Free	8pels/mm	Free	0xaa	0xaa	0xaa
	0f0021	Reception main scan resolution capacity [1]	Free	Free	Free	Free	Free	(1200dpi)	(800dpi)	600dpi	0x01	0x01	0x01
	0f0022	Reception sub scan resolution capacity [0]	400dpi	300dpi	200dpi	100dpi	15.4 l/mm	Free	7.7 l/mm	3.85 l/mm	0xbb	0xbb	0xbb
	0f0023	Reception sub scan resolution capacity [1]	Free	Free	Free	Free	Free	(1200dpi)	(800dpi)	600dpi	0x01	0x01	0x01
	0f0024	Reception coding system capacity	Free	Free	(JPEG)	JBIG	MMR	MR	MH	THRU	0x1f	0x1f	0x1f
	0f0025	Reception original width capacity	Free	Free	(Legal)	(Letter)	A3	B4	A4	(A5)	0x0e	0x0e	0x0e
	0f0026	Reception original length capacity	Free	Unlimited	(Legal)	(Letter)	Free	B4	A4	(A5)	0x46	0x46	0x46
	0f0027	Reception speed capacity [0]	Free	Free	Free	V.29-96	V.29-72	Free	V.27-48	V.27-24	0x1b	0x1b	0x1b
	0f0028	Reception speed capacity [1]	V.17-144	V.17-120	V.17-96	V.17-72	V.33-144	V.33-120	(TCM-96)	(TCM-72)	0xfc	0xfc	0xfc
	0f0029	Reception speed capacity [2]	V.34-192	V.34-168	V.34-144	V.34-120	V.34-96	V.34-72	V.34-48	V.34-24	0xff	0xff	0xff
	0f002a	Reception speed capacity [3]	Free	Free	V.34-336	V.34-312	V.34-288	V.34-264	V.34-240	V.34-216	0x3f	0x3f	0x3f
	0f002b	Reception MSLT capacity	T3.85 or 200*100 dpi (0-40) ms unit								0x05	0x05	0x05
	0f002c	Reception MSLT capacity	T7.7 or 200*200 dpi (0-40) ms unit								0x05	0x05	0x05
	0f002d	Reception MSLT capacity	T11.55 or 300*300 dpi (0-40) ms unit								0x05	0x05	0x05

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
	0f002e	Reception MSLT capacity	T15.4 or 400*400 dpi (0-40) ms unit								0x05	0x05	0x05
	0f002f	Reception ECM capacity	Free							ECM reception capacity 0:OFF, 1:ON	0x01	0x01	0x01
	0f0030	Reception protocol capacity	Free	Free	Free	V8/V34	Free	Free	Free	G3S	0x11	0x11	0x11
	0f0031	Reception option frame capacity	Free	Free	Free	(BFT)	(BTM)	PWD	(SEP)	SUB	0x07	0x07	0x07
	0f0032 - 0f003f	Reserved area									All 0x00	All 0x00	All 0x00

For main line (Address: 100000 - 10001f)

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
	100000	Transmission main scan line resolution instruction[0]	400dpi	300dpi	200dpi		16pels/mm		8pels/mm		0x22	0x22	0x22
	100001	Transmission main scan line resolution instruction[1]								600dpi	0x01	0x01	0x01
	100002	Transmission sub scanning resolution instruction[0]	400dpi	300dpi	200dpi	100dpi	15.4 l/mm		7.7 l/mm	3.85 l/mm	0x11	0x11	0x11
	100003	Transmission sub scanning resolution instruction[1]								600dpi	0x01	0x01	0x01
	100004	Transmission coding method instruction			(JPEG)	JBIG	MMR	MR	MH	THRU	0x1f	0x1f	0x1f
	100005	Transmission document width instruction			(Legal)	(Letter)	A3	B4	A4	(A5)	0x0e	0x0e	0x0e
	100006	Transmission document length instruction		Unlimited	(Legal)	(Letter)		B4	A4	(A5)	0x46	0x46	0x46
	100007	Transmission speed instruction[0]				V.29-96	V.29-72		V.27-48	V.27-24	0x1b	0x1b	0x1b
	100008	Transmission speed instruction[1]	V.17-144	V.17-120	V.17-96	V.17-72	V.33-144	V.33-120	(TCM-96)	(TCM-72)	0xf0	0xf0	0xf0
	100009	Transmission speed instruction[2]	V.34-192	V.34-168	V.34-144	V.34-120	V.34-96	V.34-72	V.34-48	V.34-24	0xff	0xff	0xff
	10000a	Transmission speed instruction[3]			V.34-336	V.34-312	V.34-288	V.34-264	V.34-240	V.34-216	0x3f	0x3f	0x3f
	10000b	Transmission MSLT instruction	T3.85 or 200*100dpi (0-40) ms unit								0x05	0x05	0x05

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
	10000c	Transmission MSLT instruction	T7.7 or 200*200dpi (0-40) ms unit								0x05	0x05	0x05
	10000d	Transmission MSLT instruction	T11.55 or 300*300dpi (0-40) ms unit								0x05	0x05	0x05
	10000e	Transmission MSLT instruction	T15.4 or 400*400dpi or 600*600dpi (0-40) ms unit								0x05	0x05	0x05
	10000f	Transmission ECM instruction							ECM transmission frame size 0:256 1:64	ECM transmission instruction 0:OFF 1:ON	0x01	0x01	0x01
	100010	Transmission protocol instruction			FAX-CSRC	V8/V34	DIAG			G3S	0x11	0x11	0x11
	100011	Transmission option frame instruction				(BFT)	(BTM)	PWD	(SEP)	SUB	0x00	0x00	0x00
	100012 - 10001f	Reserved area											

For sub line (Address: 100020 - 10003f)

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
	100020	Transmission main scan line resolution instruction[0]	400dpi	300dpi	200dpi		16pels/mm		8pels/mm		0x22	0x22	0x22
	100021	Transmission main scan line resolution instruction[1]						1200dpi	800dpi	600dpi	0x01	0x01	0x01
	100022	Transmission sub scanning resolution instruction[0]	400dpi	300dpi	200dpi	100dpi	15.4 l/mm		7.7 l/mm	3.85 l/mm	0x11	0x11	0x11
	100023	Transmission sub scanning resolution instruction[1]						1200dpi	800dpi	600dpi	0x01	0x01	0x01
	100024	Transmission coding method instruction			(JPEG)	JBIG	MMR	MR	MH	THRU	0x1f	0x1f	0x1f
	100025	Transmission document width instruction			(Legal)	(Letter)	A3	B4	A4	(A5)	0x0e	0x0e	0x0e
	100026	Transmission document length instruction		Unlimited	(Legal)	(Letter)		B4	A4	(A5)	0x46	0x46	0x46
	100027	Transmission speed instruction[0]				V.29-96	V.29-72		V.27-48	V.27-24	0x1b	0x1b	0x1b
	100028	Transmission speed instruction[1]	V.17-144	V.17-120	V.17-96	V.17-72	V.33-144	V.33-120	(TCM-96)	(TCM-72)	0xf0	0xf0	0xf0
	100029	Transmission speed instruction[2]	V.34-192	V.34-168	V.34-144	V.34-120	V.34-96	V.34-72	V.34-48	V.34-24	0xff	0xff	0xff

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
	10002a	Transmission speed instruction[3]			V.34-336	V.34-312	V.34-288	V.34-264	V.34-240	V.34-216	0x3f	0x3f	0x3f
	10002b	Transmission MSLT instruction	T3.85 or 200*100dpi (0-40) ms unit								0x05	0x05	0x05
	10002c	Transmission MSLT instruction	T7.7 or 200*200dpi (0-40) ms unit								0x05	0x05	0x05
	10002d	Transmission MSLT instruction	T11.55 or 300*300dpi (0-40) ms unit								0x05	0x05	0x05
	10002e	Transmission MSLT instruction	T15.4 or 400*400dpi (0-40) ms unit								0x05	0x05	0x05
	10002f	Transmission ECM instruction							ECM transmission frame size 0:256 1:64	ECM transmission instruction 0:OFF 1:ON	0x01	0x01	0x01
	100030	Transmission protocol instruction				V8/V34				G3S	0x11	0x11	0x11
	100031	Transmission option frame instruction				(BFT)	(BTM)	PWD	(SEP)	SUB	0x00	0x00	0x00
	100032 - 10003f	Reserved area									All 0x00	All 0x00	All 0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode (0,1,4)	120000	TTI/RTI setting		SW for prohibiting the printing of the TTI address 0: Printing of the address allowed 1: Printing of the address not allowed	RTI addition 0:OFF 01:(OFF) 10:INSIDE 11:OUTSIDE		TTI denominator display 0:Total 1:Individual	Inhibition of TTI setting menu INSIDE display 0:No 1:Yes			0x03	0x03	0x03
Utility Mode (2 - 5) Utility Mode Special Setting(6)	120001	Report setting 1		Addition of image 0:No 1:Yes	Automatic output of reserved report 0:No 1:Yes	Communication result report 00:Not output 01:Output only at errors 10:Always output 11:(Normal output)		Automatic output of sequential communication report 0:No 1:Yes			6c	6c	6c
Utility Mode (0 - 2) Utility Mode Special Setting (0,1)	120002	Report setting 2	FAX CSRC Fcode forwarding logging 0:No 1:Yes			Abbreviation List 0:numerical order 1:sorted order	Automatic daily output of journal 0:No 1:Yes	Automatic output of journal 100 communication 0:No 1:Yes	Automatic output or error trace list 0:No 1:Yes	Automatic output of trace list 0:No 1:Yes	0x04	0x04	0x04

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North Amer-ica	Europe
	120003	Output time of daily automatic output of journal (hour: grade of 10)	Designation of 24 hours ASCII four-digit								0x30	0x30	0x30
	120004	Output time of daily automatic output of journal (hour: grade of 1)									0x39	0x39	0x39
	120005	Output time of daily automatic output of journal (minute: grade of 10)									0x30	0x30	0x30
	120006	Output time of daily automatic output of journal (minute: grade of 1)									0x30	0x30	0x30
Utility Mode (3 - 5) Utility Mode Special Setting(0)	120007	Output setting			Transmission result report selection screen 0:Not displayed 1:Displayed	Broadcast result report output method 0:All destinations 1:1Each destina-tion	Printing during auxiliary power OFF 0:No 1:Yes	Output order of journal transmis-sion result reser-vation report 0:From old one 1:From new one		Diagnostic code display 0:No 1:Yes	0x00	0x00	0x00
	120008	Invisible mode						Display of PC-FAX TX [PC] in Note of report 0:No 1:Yes			0	0	0
---	120009	Reserved area									0x00	0x00	0x00
Utility Mode (0 - 3)	12000b	F code report setting					Relay request report output 0:No 1:Yes	Relay result report output 0:No 1:Yes	Bulletin polling transmission report output 0:No 1:Yes	Confidential reception report output 0:No 1:Yes	0x0f	0x0f	0x0f
Utility Mode	12000c	Internet Fax report Settimg		Network Fax RX Error Report (0:OFF 1:ON)	Internet Broad-cast Fax Result Report (0:OFF 1:ON)	Error Mail Text printing (0:ON 1:OFF)	E-Mail Message Body printing (0:ON 1:OFF)	TX Error Report printing (0:ON 1:OFF)	MDN Message printing (0:ON 1:OFF)	DSN Message printing (0:ON 1:OFF)	0x61	0x61	0x61
Utility Mode	12000d	FAX report setting							PC-Fax Error report output 0:No 1:Yes	Relay print 0:No 1:Yes	0x00	0x00	0x00
---	12000e - 12000f	Reserved area									0x00	0x00	0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North Amer-ica	Europe
Utility Mode	130000	Reserved area									0x11	0x11	0x11
Utility Mode Spe-cial Setting (6,7)	130001	FAX scan HP2	Frame erasure HP 01:5mm 10:10mm 11:15mm								0x41	0x41	0x41
Utility Mode Spe-cial Setting (0,1,2)	130002	FAX scan HP3						Original reading mode 00:Normal 01:Mixed size 10:ADF irregular		Scanned from the right side at book transmission	0x04	0x04	0x04

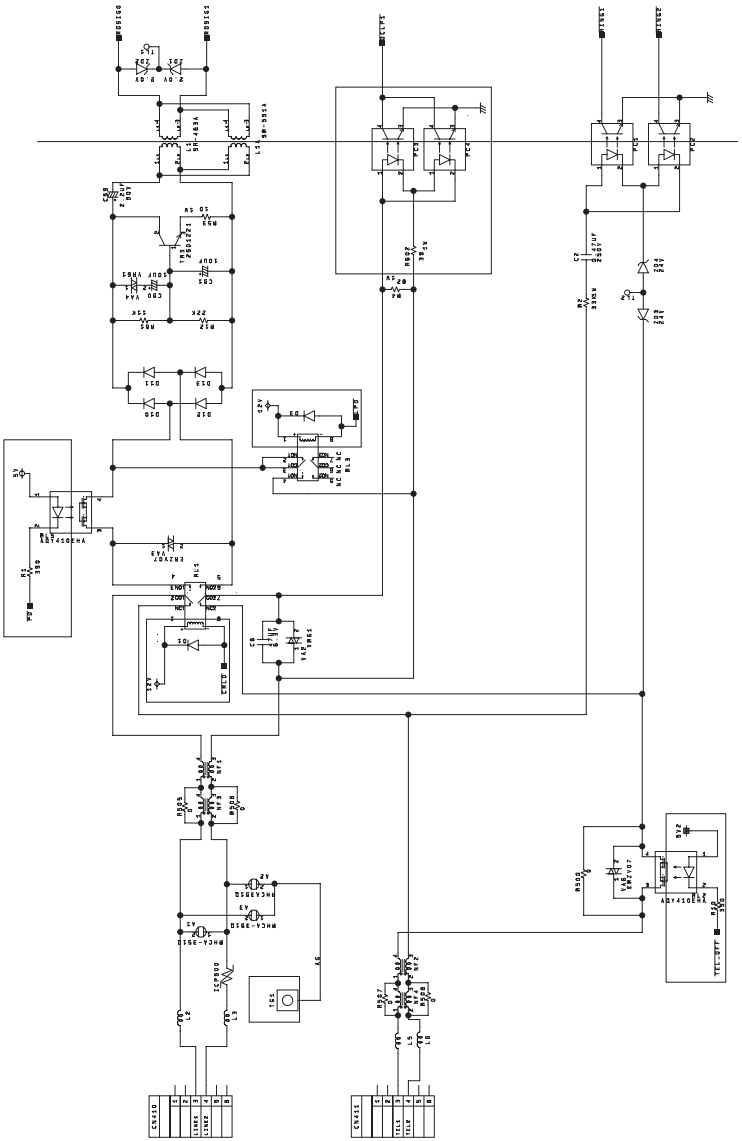
Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
---	130003	Reserved area									0x06	0x06	0x06
---	130004	Reserved area									0x09	0x09	0x09
---	130005	Reserved area									0x05	0x05	0x05
---	130006	Reserved area									0x01	0x01	0x01
Utility Mode (2 - 7)	130007	HP for FAX main screen	FAX main screen selection 0000:Program 0001:Group 0010:Abbrebiation 0011:Keypad				Automatic screen switching at the time of reception 0:Yes 1:No				0x09	0x09	0x09
Utility Mode Special Setting (0,1)	130008	Rotation setting HP						B5R 0:No 1:Yes	Letter 0:No 1:Yes	A4 0:No 1:Yes	0x03	0x03	0x03
---	130009	Reserved area	Time until auto reset 0:OFF, 1-9 min.								0x00	0x00	0x00
---	13000a	Not used.											
Utility Mode Special Setting	13000b	Error display time	10 - 250 seconds, 0: Error display HOLD								0x14	0x14	0x14
---	13000c	Reserved area									0x00	0x00	0x00
---	13000d	Reserved area									0x05	0x05	0x05
---	13000e	Reserved area									0x00	0x00	0x00
Utility Mode Special Setting	130035	Utility Mode display setting	Relay display 0:Yes 1:No		Restored transmission display 0:Yes 1:No	Compulsory memory reception display 0:Yes 1:No	Caller No./Name display 0:Yes 1:No	Closed communication display 0:Yes 1:No	Remote reception display 0:Yes 1:No	DialIn display 0:Yes 1:No	0x00	0x0b	0x0b
Utility Mode Special Setting (0,1)	130036	Utility Mode display setting 2							Receive reject display 0:Yes 1:No		0x00	0x00	0x00
---	130037	Not used.											
Utility Mode	130038- 130043	Reserved area									0x00	0x00	0x00
Utility Mode	130044 - 13004f	DialIn additional No. (FAX)	ASCII 11 digits + NULL								ALL0x00	ALL0x00	ALL0x00
Utility Mode	130050 - 13005b	DialIn additional No. (PC-FAX)	ASCII 11 digits + NULL								ALL0x00	ALL0x00	ALL0x00
Utility Mode	13005c - 130067	DialIn additional No. (telephone)	ASCII 11 digits + NULL								ALL0x00	ALL0x00	ALL0x00

Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North America	Europe
Utility Mode Special Setting	130068	Upper limit for signal transmission level setting	(-dBm) Switched according to destination of FAX								0x0a	0x0a	0x08
Utility Mode	130069	Lower limit for call termination frequency setting range	(No. of times) Switched according to destination of FAX								0x00	0x00	0x00
Utility Mode	13006a	Upper limit for call termination frequency setting range	(No. of times) Switched according to destination of FAX								0x0f	0x0f	0x0f
---	13006b	Dial method setting							Dial method setting (Switched according to destination of FAX) 00: PB, 10pps, 20pps 01: PB 10: PB, 10pps 11: PB, 10pps, 16pps		0x00	0x22	0x11
Utility Mode Utility Mode Special Setting	13006c	Upper limit for redial frequency setting range	(No. of times) Switched according to destination of FAX								0x07	0x01	0x07
Utility Mode	13006d	Upper limit for redial interval setting range	(Minutes) Switched according to destination of FAX								0x01	0x01	0x01
Utility Mode	13006e	Lower limit for redial interval setting range	(Minutes) Switched according to destination of FAX								0x0f	0x0f	0x0f
Utility Mode(0,1) Utility Mode Special Setting(2 - 6)	13006f	Telephone-related function setting menu display (1)		Remote reception 0: OFF 1: ON	Dial-in 0: OFF 1: ON	Number display 0: OFF 1: ON	Pseudo RBT form 0: OFF 1: ON	Pseudo RBT transmission level 0: OFF 1: ON	Connection to answering machine 0: OFF 1: ON	TEL/FAX switching 0: OFF 1: ON	0x7f	0x00	0x00
Utility Mode	130070	Number display related function setting					Name display at the time of FAX reception (line 2) 00:No display 01:Display of number 10:Display of name		Name displayed Type of display at fax reception 00: Not displayed 01: Number displayed 10: Name displayed		0x00	0x00	0x00
	130071	Setting of lower limit for DTMF transmission level setting range	(-dBm) Switched according to destination of FAX								0x0e	0x0f	0x09
	130072	Setting of upper limit for DTMF transmission level setting range	(-dBm) Switched according to destination of FAX								0x0a	0x0a	0x05
	130073	Setting of lower limit for DTMF H-L level difference setting range	(dB) Switched according to destination of FAX								0x01	0x01	0x01
	130074	Setting of upper limit for DTMF H-L level difference setting range	(dB) Switched according to destination of FAX								0x04	0x04	0x04
	130075	For transmission						Restrict Plural Fax Destination 0: OFF 1: ON	Destination Check Display Function 0: OFF 1: ON	Screen display during transmission 0: OFF 1: ON	0x00	0x00	0x00
	130076	Lower limit setting of the signal send-out level setting range	(-dBm) Switched according to destination of FAX								0x0f	0x0f	0x0f

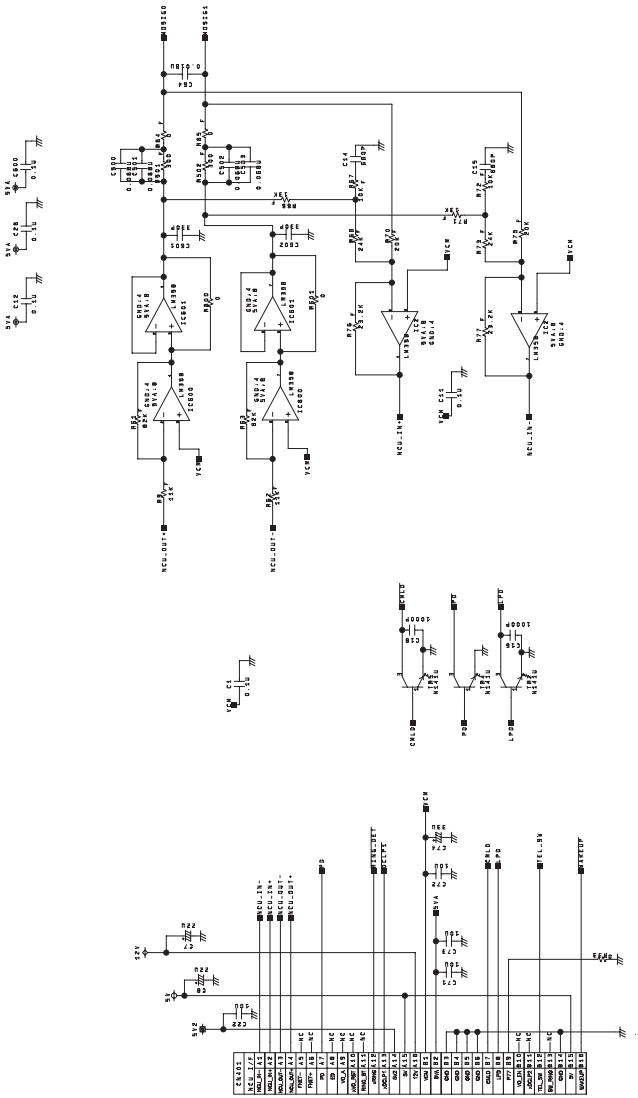
Setting	Address	Item	Contents								Default		
			bit7	bit6	bit5	bit4	bit3	bit2	bit1	bit0	Japan	North Amer-ica	Europe
	130078 - 13007a	Character-to-search default for FAX main screen	bit0 :[Main] 0: OFF, 1: ON bit10 :[ABC] 0: OFF, 1: ON bit11 :[DEF] 0: OFF, 1: ON bit12 :[GHI] 0: OFF, 1: ON bit13 :[JKL] 0: OFF, 1: ON bit14 :[MNO] 0: OFF, 1: ON bit15 :[PQRS] 0: OFF, 1: ON bit16 :[TUV] 0: OFF, 1: ON bit17 :[WXYZ] 0: OFF, 1: ON bit18 :[etc] 0: OFF, 1: ON								0x01	0x01	0x01
	13007d	Initial program display page	1 - 27 page (HEX: 0x01 - 0x1b), 0: Temporary distribution								0x01	0x01	0x01
	13007e	Destination type display setting (for 750/600/500/420)								Destination type display 0: No 1: Yes	0x01	0x01	0x01
	13007f	No. of destination display characters setting (for 750/600/500/420)	0x0e: 14 characters, 0x18: 24 characters								0x0e	0x0e	0x0e
--	130080	Destination type display setting (for C450/C352/C351/C300/C252/C250)								Destination type display 0: No 1: Yes	0x01	0x01	0x01
	130084	No. of destination display characters setting (for C450/C352/C351/C300/C252/C250)	0x0e: 14 characters, 0x18: 24 characters								0x0e	0x0e	0x0e

9.2.WIRING DIAGRAM (NUC)

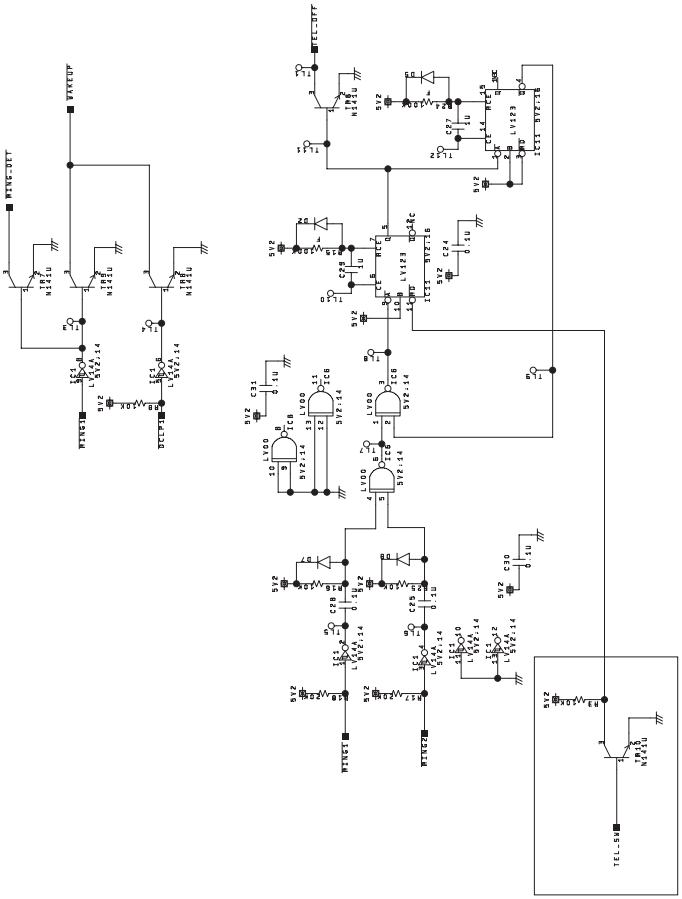
(1) North America -1



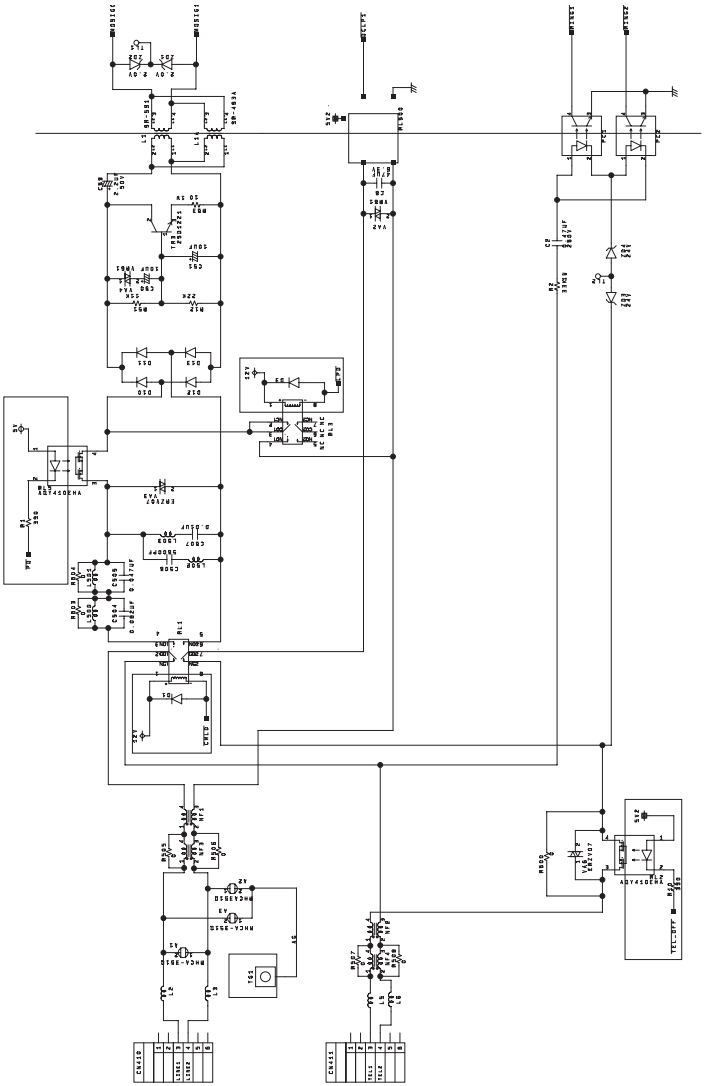
(2) North America -2



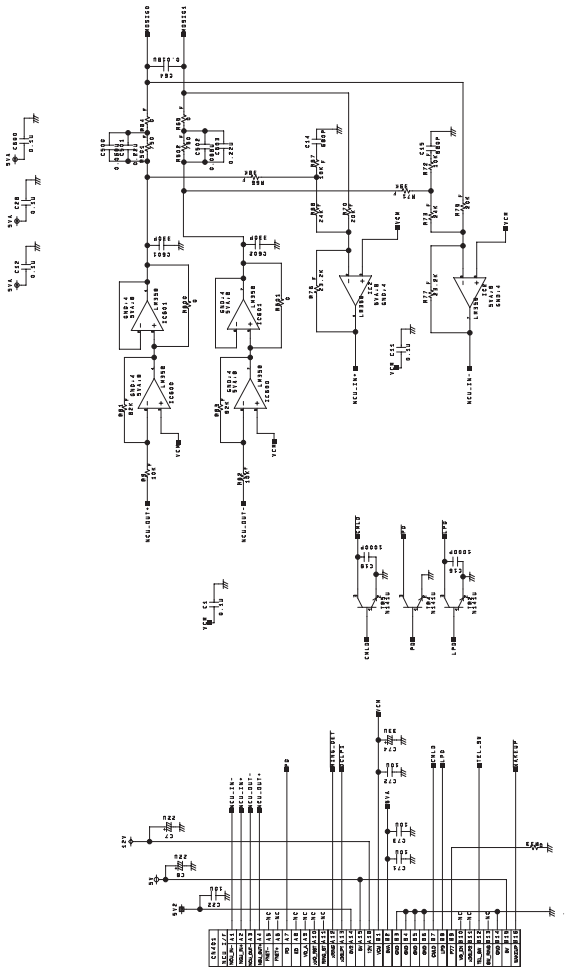
(3) North America -3



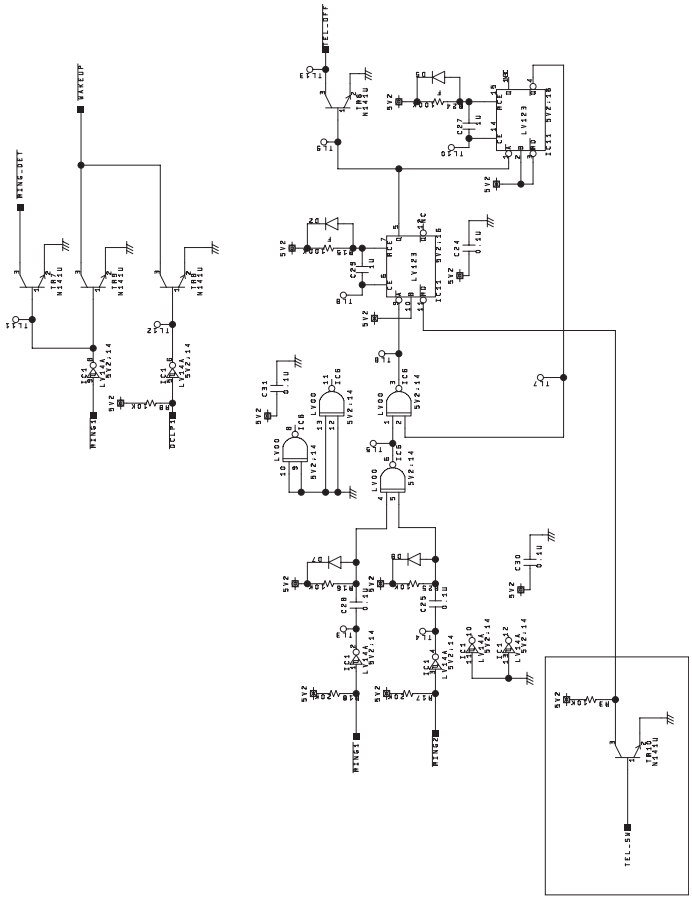
(4) Others -1



(5) Others -2



(6) Other -3



9.3.Differences of Functions by Model (as of Aug.11. 2006)

		C450/C351/ C252/C250	C352/C300	500/420	750/600
HDD		Standard supply*	Standard supply*	Option	Option
Image memory capacity		27GB(27 of 40GB of HDD used for memory)	27GB(27 of 40GB of HDD used for memory)	With HDD installed: 27GB (27 of 40GB of HDD used for memory) With no HDD installed: 32MB (RAM disk)	With HDD installed: 30GB (30 of 40GB of HDD used for memory) With no HDD installed: 32MB (Compact flash)
Max. no. of stored papers		9000 papers	9000 papers	9000 papers (With no HDD installed: Approx. 2000 papers)	9000 papers (With no HDD installed, it is dependent on image memory capacity.)
Max. original length to be read		432mm	600mm (432mm for superhigh definition transmission resolution)	432mm	1000mm
Max. reception length		1000mm	1000mm	460mm	1000mm
Scan Setting	TX Stamp	-	0	0	0
	Single sided/ Double sided	Single sided, Double sided-Cover + 2 sided	Single sided, Double sided-Cover + 2 sided	Single sided, Double sided	Single sided, Double sided
	Long Original	-	0	-	0
	Z-Folded Original	-	0	-	0
	Sharpness	0	0	-	-
Quick Memory TX		0	0	-	-
Destination Check Display Function		0	0	-	-
Check Destination		0	0	-	-
Fax Multi Line		0	0	-	-
Print/Fax Output Settings		0	0	-	-
Address Book		2000	2000	2000 (1000 with no HDD installed)	2000 (1000 with no HDD installed)
Group		100	100	100	100
Program		400	400	400 (200 with no HDD installed)	400 (200 with no HDD installed)

	C450/C351/ C252/C250	C352/C300	500/420	750/600
LED display of file	o	o	-	-
Equal size recording	o	o	-	o
Fax Analysis List	o	o	-	-
Network Fax (Internet Fax/IP address Fax)	o	o	-	-

NOTE

- *** This unit cannot be used if no HDD is installed.**

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MEMO

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